Project No.: 9703

Site Operations Plan (SOP):
Work Plan and Health and Safety Plan

Cornell-Dubilier Electronics Site
333 Hamilton Boulevard
South Plainfield, New Jersey

June 1997

submitted to

U.S. Environmental Protection Agency, Region II
Removal Action Branch
2890 Woodbridge Avenue
Edison, New Jersey 08837

prepared for

DSC of Newark Enterprises, Inc.
70 Blanchard Street
Newark, New Jersey 07105

prepared by

OXFORD ENVIRONMENTAL, INC.
43 Route 46 East, Suite 702,
Pine Brook, New Jersey 07058
201-244-0600 • fax 201-244-0722

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U.S. Environmental Protection Agency, Region II
Removal Action Branch
2790 Woodbridge Avenue
Edison, NJ 08837

Attn: Mr. Eric Wilson, On-Scene Coordinator

Re: Revised Site Operations Plan
Cornell-Dubilier Electronics Site
South Plainfield, New Jersey
EPA Order Index No. II-CERCLA-97-109

Dear Mr. Wilson:

Oxford Environmental, Inc. (Oxford) respectfully resubmits the attached Site Operations Plan in accordance with your letter, dated May 6, 1997, and subsequent phone calls and meetings.

The Site Operations Plan, hereinafter "SOP," consists of two sections: Section 1.0 - Site Work Plan; and Section 2.0 - Health & Safety Plan. The Work Plan addresses the work to be accomplished to eliminate the imminent danger to public safety, welfare or the environment. The Health and Safety Plan outlines the requirements to conduct site activities in accordance with 29 CFR 1910.120.

It is our understanding that the submission of this SOP constitutes compliance with the directives of the Administrative Order II-CERCLA-97-109 issued to DSC of Newark Enterprises, Inc.

If you have any questions or concerns, or if we may be of any assistance to you on this matter, please feel free to contact the undersigned.

Very truly yours,

J.A. Timothy Francisco, CEI, CES
Environmental Engineer
Project Manager

Gary T. Boyer, P.E., DEE
Sr. Environmental Engineer
Project Engineer

attachment

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Sheet 1	Cover Sheet and Key Map
Sheet 2	Existing Conditions
Sheet 3	Layout
Sheet 4	Details

APPENDIX B - SPECIFICATIONS

Series 0 - Bidding Requirements, Contract Forms And Conditions Of The Contract

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00101 Instructions to Bidders-AIA
00200 Information Available to Bidders
00311 Bid Form- Stipulated ,Price
00400 Supplements to Bid Form
00401 List of Subcontractors
00402 List of Unit Prices
00501 Agreement- AIA
00701 General Conditions- AIA
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Division 1 - General Requirements (Broad Scope)

01010 Summary of Work
01019 Contract Considerations
01039 Coordination and Meetings
01300 Submittals
01400 Quality Control
01500 Construction Facilities and Temporary Controls
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1. SITE WORK PLAN

1.1 STATEMENT OF WORK

This part of the site operation plan describes in detail the removal actions that will be taken. Covering the site will eliminate contact with soil containing unacceptable levels of lead and PCBs. Routes of exposure are skin contact, ingestion, and inhalation. Possible routes of spread of contamination are soil erosion and sediment loss. Actions to close the routes are paving, topsoiling, seeding, sediment barriers, fencing, signs, grading and drainage improvements. Project life is expected to be five years while a remedial investigation and permanent remedial design are completed. The permanent remedial design may include subsurface construction. Therefore, this plan reflects that possibility.

The site work plan consists of this report, drawings and specifications. This report explains the features in the design. Drawings show a picture of what is to be built. Specifications describe in words what is to be built, and are coordinated with the drawings.

The health and safety plan will guide protection of construction workers. The site work plan and the health and safety plan fit together to safely and effectively stabilize the site.

1.2 EXISTING CONDITIONS

Sheet 2 of the drawings shows existing conditions at the site. The following excerpt is taken from the May, 1997, Superfund Update by EPA Region 2:

The Cornell-Dubilier Site is located at 333 Hamilton Boulevard in South Plainfield, New Jersey. The Site occupies approximately 25 acres and is bounded by Hamilton Boulevard to the northwest, Spicer Avenue to the southwest, a wetlands area to the southeast, the Bound Brook and Conrail tracks to the northeast.

Cornell-Dubilier operated at the Site from 1936 to 1962, manufacturing electronic components, especially capacitors for correcting power factor. During that period of time, Cornell-Dubilier handled and may have disposed of or arranged for the disposal of PCBs at the Site. The Site is currently known as the Hamilton Industrial Park and is occupied by 15 businesses.

Sampling conducted by EPA has revealed the presence of a wide variety of contaminants including PCB's, lead and cadmium in soils at the Site and in the water and sediment of the Bound Brook that borders the Site. PCBs are the primary contaminant of concern at the Site due to the levels found in soils and the potential health effects from long-term exposure. Additional investigations are required to determine the extent of contamination in soil and in the water and sediment of the Bound Brook.

EPA has initiated a study to determine the impacts of contamination of the Bound Brook on the surrounding community. The goals of this study are to provide the data necessary to determine the extent of contamination in the Bound Brook; evaluate potential threats to public health; and evaluate potential threats to wildlife in the stream corridor.

Under Superfund, EPA can respond to a release or the threat of a release of hazardous substances by conducting a removal action or requiring responsible parties to conduct a removal action. Removal actions are short term operations to reduce or eliminate the threats to public health or the environment associated with the release of hazardous substances.

Responsible parties under Superfund include current and former owners or operators of the facility. EPA has notified the current property owner and a past operator of their potential liability for the Site.

EPA has issued an Order to the property owner to stabilize the Site. This Order requires that the owner take actions to limit access to areas of known PCB contamination, limit the migration of contaminants off-site to the stream which borders the Site and pave driveways and parking areas within the industrial park. EPA has received a schedule from the property owner that specifies that plans for this work will be completed by the end of May and construction is expected in June.

PCBs have also been found in the interiors of some of the buildings at the Site at levels in excess of EPA guidelines for cleanup of PCB spills. PCBs pose a long-term health threat to the people who work in these buildings. The property owner has been informed of the contamination within the buildings and has stated that they will work with EPA to address this problem.

1.3 NOTIFICATIONS

Prior to the initiation of this work plan, the entity/contractor performing the work shall at a minimum 48 hours before field activities notify the following:

- On-Scene Coordinator:
  Eric Wilson
  Removal Action Branch
  U.S. Environmental Protection Agency, Region II
  2890 Woodbridge Avenue
  Edison, NJ 08837
  Phone: (908) 906-6991

- Facility Coordinator:
  Timothy Francisco

Oxford Environmental, Inc.
43 Route 46 East
Pine Brook, NJ 07058
Phone: (201) 244-0600

EPA will be notified of contractors and subcontractors selected to perform the work specified pursuant to the Administrative Consent Order for this Site at the time contracts are awarded. Notifications shall also be made to the applicable state and local authorities having jurisdiction over the work.

1.4 TENANT NOTIFICATION

Prior to the initiation of field activities, the entity/contractor performing the work shall inform the tenants of Hamilton Industrial Park of the work to be conducted at the site and the associated hazards involved. Written notification shall be made by the Facility Coordinator to the tenants of hamilton Industrial Park of the work to be conducted and the associated hazards at least 48 hours prior to commencement of site activities and indicate the areas to be restricted during the implementation of the site work.

1.5 RESTRICTED ACCESS

Areas of known contamination shall be restricted to authorized personnel implementing the Site Operations Plan. Lockable gates and six-foot high chain link fence shall be erected at the boundary to the areas of PCB contamination. Where permanent vegetative cover is to be installed, access will be restricted as well as indicated on drawing details.

1.6 MAINTENANCE OF INSTALLED SYSTEMS

Once the Site Operations Plan has been implemented, an operations and maintenance (O&M) program shall be instituted. The O&M program shall consist of a checklist and/or log book documenting a visual inspection of the installed systems on a daily basis, noting any deficiencies or system failures, and documenting any maintenance performed on the installed system to ensure the integrity and system performance. The checklist log book shall be incorporated as part of this SOP, maintained on site and may be inspected by the U.S. EPA and its representatives.

1.7 PAVING

The site layout drawing (Sheet 3) shows areas that will be paved. These areas are driveways and parking lots. They are presently covered with gravel or millings. Some potholes and ruts exist. The ruts and potholes will be filled before paving.

Paving will be crowned and sloped to drain properly to ensure that puddles, flooding, icing and pavement failure will not occur. Paving will follow the existing contours as much as possible. Existing fill, that may contain unacceptable levels of PCBs, will generally not be

excavated or graded. Rather, potholes and low areas will be filled with dense graded aggregate. Aggregate will be compacted before paving.

Excavation will be necessary in an area near Building 5 where inlets and pipes must be installed for storm drains (see sheet 3). Excavated material will be used for backfill. Material will be kept wet to avoid fugitive dust. A dust meter will be used to monitor and adjust activities in accordance with the health and safety plan.

The detail drawing (Sheet 4) shows a paving section. Paving will consist of a stabilized base course. This course will be three inches thick. Because existing millings and gravel have been compacted by traffic, this thickness should be adequate for the five year project life. The design mix for stabilized base course is NJDOT mix I-2.

Appendix B contains specifications for aggregate materials, rough grading, and asphaltic concrete paving.

1.8 SOIL EROSION AND SEDIMENT CONTROL

Not all areas will be covered with paving. Many areas will be covered with topsoil and permanent vegetative cover. Topsoil will be applied five inches thick, as recommended by the Freehold Soil Conservation District. Subsoil will be scarified before applying topsoil. Lime, fertilizer, and seed mix are listed in the specification. The vegetation is not expected to be mowed. This will discourage pedestrian traffic.

At the toe of slopes, sediment barriers will be built. These will consist of silt fence and hay bales. These will provide sediment control while permanent vegetation is established. After one growing season, the vegetation will be established and the sediment barrier will not be needed anymore. Sediment barriers will be maintained for a minimum of 1 year and until permanent vegetation is established.

Appendix B contains specifications for topsoiling, sediment barriers and permanent vegetative cover for soil stabilization.

1.9 DUST CONTROL MEASURES

During the implementation of the work plan, it is anticipated that dust may be generated during the course of construction activities such as paving, installation of soil erosion control systems, and the installation of drainage controls. To control the generation of dust during these activities, prevent blowing and movement of dust from expose soil surfaces, reduce on- and off-site damage and health hazards, and improve traffic safety, the contractor shall implement dust control measures as stipulated below:

1.9.1 ACCEPTABLE METHODS

The following methods shall be considered acceptable for controlling dust:

- Barriers - Solid board fences, snow fences, burlap fences, crate walls, bales of hay, and similar material can be used to control air currents and soil blowing.

- Calcium Chloride - Shall be in the form of loose, dry granules or flakes fine enough feed through commonly used spreaders at a rate that will keep surface moist but not cause pollution or plant damage. If used on steeper slopes, use other practices to prevent washing into streams or accumulation around plants.

- Sprinkling - Site is sprinkled until the surface is wet.

- Stone - Cover surface with crushed stone or coarse gravel.

- Vegetative Cover - Hydroseeding shall be performed where exposed soil areas will not be capped.

Due to the nature of the contaminants at the Site, tillage and spray-on adhesives are unacceptable dust control methods.

1.10 DRAINAGE

1.10.1 PAVED AREAS

Overall, existing drainage is toward the stream at the rear of the property (sheet 2). As sheet 3 shows, most areas will be drained by sheet flow. The sheet flow will pass to the rear of the property. At the rear of the property, asphalt concrete curbs will divert the water for treatment and disposal.

Water will be treated by sediment barriers (Sheet 4). One sediment barrier surrounds an area inlet. Other barriers surround strips of rip-rap. The site owner will maintain the barriers.

Areas at loading docks (Sheet 3) will be drained by inlets. The inlets will be piped to existing drainage pipes. Existing pipes terminate at a dry well at the rear of the property (Sheet 3). This system will continue to be used. But sediment bags will be installed at all inlets and maintained per manufacturers instructions. Sediment from the bags will be stockpiled, tested and disposed according to applicable code.

1.10.2 UNPAVED AREAS

Unpaved areas are largely protected by vegetation. Sheet flow and some channel flow now leaves the property. Channels have been lined with rip-rap and sediment barriers have been installed in them.

Topsoil and permanent vegetation and sediment barriers will be added (Sheet 3). The barriers will consist of silt fence and hay bales (see detail, Sheet 4). As the vegetation grows it will hold the soil in place. After one growing season the sediment barrier will no longer be necessary.

1.11 FENCING

Fences will be installed to restrict pedestrian circulation from areas of possible contact with soil containing excessive levels of contaminants (sheet 3). Pedestrian traffic will be kept off the topsoil and seeded areas. These areas will be fenced with three foot high cable to prevent pedestrian traffic. Fences will also be installed around the perimeter. Existing fence will be repaired as required. Perimeter fence will be chain link, six feet high, topped with three strands of barbed wire at a forty five degree angle.

Fencing will be installed to connect the existing fenced area previously used by Pepe Driving School to the perimeter fence to restrict access to the southeast portion of Block 256 Lot 1 (sheet 3). Gates to restricted access areas will remain locked except when access is required for investigation or remediation of the site or operation and maintenance of systems installed as part of the removal action. Appendix B contains specifications for chain link fencing and gates.

1.12 WARNING SIGNS

Warning signs will be placed approximately every 100 feet along the chain link fence separating the northwest (occupied) portion of Block 256 Lot 1 from the southeast (unoccupied) portion of Block 256 Lot 1. Section 2.12 - Typical Warning Sign.

1.13 PROJECT SCHEDULE

Task Description	*Start Date*	*Completion Date*
Preparation of Site Operations Plan	5/2/97	5/5/97
Plan Submission to EPA, Plan Review	5/5/97	5/6/97
Land Surveying Services Procurement	5/5/97	5/9/97
Site Surveying	5/13/97	6/19/97
Design Engineering	5/27/97	6/10/97
Plan Resubmission to EPA	6/6/97	6/10/97
EPA Plan Review	6/9/97	6/11/97
Contract Bidding	6/10/97	6/23/97
Contract Award	6/23/97	6/25/97
Pre-Construction Conference	6/27/97	7/3/97
Construction Phase	7/7/97	7/25/97
Site Summary Report Preparation	7/28/97	7/30/97
Site Summary Report Submission	7/31/97	7/31/97

1.14 SUBMITTALS

A Site Summary Report will be submitted to EPA which will include the following components:

- a synopsis of the work performed;
- identification and description of EPA-approved modifications tot he SOP;
- a list of all contractors and subcontractors used;
- a list of quantities, types and ultimate destiunation of materials removed from the site for treatment or disposal; and
- a summary of actual costs incurred.

END OF SECTION

2. HEALTH & SAFETY PLAN

2.1 SCOPE OF HASP

The following Health and Safety Plan (HASP) is intended to serve as the minimum requirements for implementation of the Site Operations Plan (SOP) detailed in the previous section. The information contained herein represents the health and safety procedures to be employed during the course of work activities at a regulated hazardous waste site, or where environmental contaminants may be encountered during the course of field operations. The HASP has been prepared to address health and safety issues specific to the Cornell-Dubilier Electronics site, as well as satisfying the requirements of OSHA's Standards for Hazardous Waste Operations and Emergency Response (29 CFR 1910.120) and EPA's Standard Operating Safety Guide, OSWER Directive 9285.103, June 1992.

2.2 LIMITATIONS

This HASP details the minimum health and safety requirements to be employed while performing site stabilization activities at the Cornell-Dubilier Electronic Site, hereinafter referred to as the "Site." This plan is not a comprehensive training manual nor does it detail all procedures that may be utilized on site, however, it is intended to be a guidance manual for specific site operations to be deemed appropriate. Detailed information and guidance on materials covered in this plan is adopted from general accepted industry standards and professional practices. All regulations of the Occupational Safety and Health Act (OSHA) are to be adhered to by Oxford Environmental, Inc., its employees, representatives and subcontractors, and shall be responsible for initiating, maintaining, and supervising all safety protocols and programs in connection with the work.

This HASP has been prepared based on information reviewed from previous studies prepared by third parties, consultants, and regulatory agencies, including but not limited to Malcolm-Pirnie, U.S. Environmental Protection Agency, ENSA Environmental, Inc., and ICF Kaiser Engineers. Oxford Environmental, Inc. makes no warranties, either expressed or implied, as to the accuracy or completeness of information contained in the documents reviewed to aid Oxford in the preparation of this HASP. As such, the procedures and requirements set forth herein are intended to be used as the minimum guidelines for the implementation of the Work Plan. This HASP is a living document that will be subject to review and/or revision by the designated Site Health and Safety Officer (HSO), as often as required, or as any site specific health and safety issues arise. The implementation of this HASP, shall not relieve other parties from compliance with applicable federal, state, or local regulations or statutes.

2.3 STATEMENT OF WORK

The work to be performed for the implementation of this HASP consists of site stabilization measures to eliminate existing potentially *imminently dangerous* conditions at the Site. The potential conditions are a result of the identification of site contaminants in the surface soils at

the site from site investigation activities conducted by the EPA and third parties over the last ten years. These site contaminants of concern primarily consist of polychlorinated biphenyls (PCBs), heavy metals (lead, cadmium, chromium), and some polynuclear aromatic hydrocarbons (PAHs).

In accordance with subparagraph VII C.1 of the Administrative Order (EPA Order Index No. II-CERCLA-97-0109), the work requires the following:

1. Pave of all unpaved areas used as driveways, parking areas and walkways.

2. Institute site controls and restrict access to areas of known PCB contamination. Site controls shall at a minimum include the installation of six-foot chain link fence and the posting of warning signs. Access to areas of known PCB contamination not addressed above, shall be limited to personnel involved in the implementation of the tasks set forth in the Order.

3. Implement engineering controls to limit the migration of contaminants through surface water run-off to the unnamed tributary of the Bound Brook which borders the Site.

4. Maintain systems installed above.

In attempting to provide a comprehensive HASP within the schedule of constraints set forth in the Order, it is the intent of this plan to comply fully with all applicable health and safety standards. Documents and sources identified in the HASP are attached or incorporated by reference, and shall be made available upon request.

2.4 SUBMITTALS

The following submittals shall be provided to the authority having jurisdiction on the site. Records including, but not limited to evidence of training (29 CFR 1910.120), medical clearance forms, and respirator fit test shall be submitted prior to site activities.

2.5 SITE DESCRIPTION

Site Name:	Cornell-Dubilier Electronics Site
Location:	Hamilton Industrial Park 333 Hamilton Boulevard South Plainfield, New Jersey
Site Occupants:	Approximately fifteen business occupying on-site structures
Site Access:	Unpaved and gravel driveways from Hamilton Boulevard

Identified Hazards: PCBs (specifically Aroclor-1254), lead, arsenic, cadmium, chromium, copper, mercury, silver and zinc in surface and subsurface soils throughout the site.

Affected Area: Surface soil, subsurface soil throughout site, especially around fenced-in area and foot/bike path at the rear of site; stream sediment in the unnamed tributary of Bound Brook; impact to groundwater has not been determined.

Surrounding Population: Approximately 540 persons reside within 0.5 miles of the Site, with the nearest residential homes being located on Spicer Avenue and on the opposite side of Hamilton Boulevard.

2.6 AREAS OF CONCERN & CONTAMINANT CONCENTRATIONS

According to the site investigation reports reviewed, the entire site is to be considered an area of concern. The primary area of concern is located towards the rear of the site where electrical components were identified in the surface and subsurface soils.

Analytical results for samples collected by the U.S. EPA indicate that PCBs, lead, and various heavy metals were found to exceed the acceptable federal and state standards. No determination or effort has been made to determine impact to groundwater. The table below presents the contaminants and their concentrations found at on site:

Area of Concern	*Contaminant Concentration*
Unpaved stone and gravel driveways, parking areas, and walkways	PCBs (340 mg/kg, roadway) Lead (340 mg/kg, roadway) Arsenic (09 mg/kg, roadway surface) Cadmium (373 mg/kg, beneath unpaved roadway)
Surface soil, various locations	PCBs (1,100 mg/kg to 51,000 mg/kg, fenced area) Lead (2,200 mg/kg, soil) Arsenic (25.7 mg/kg, soil) Cadmium (36.1 mg/kg, soil) Chromium (78.6 mg/kg, soil) Copper (3,020 mg/kg, soil) Mercury (2.9 mg/kg, soil) Silver (26.7 mg/kg, soil) Zinc (1,380 mg/kg, soil)

Subsurface soil, various locations	PCBs (22,000 mg/kg, subsurface soil) Lead (7,460 mg/kg)
Stream	Trichloroethene (120 ug/kg, sediment; 2 ug/l, surface water)
Foot/bike path	PCBs (3,000 mg/kg, soil) Lead (66,000 mg/kg, soil) Cadmium (271 mg/kg, soil)

According to the Work Plan, contaminated soil has been identified at unpaved, gravel driveways, parking areas and walkways. These areas will be paved over to eliminate potential imminent danger to the site occupants, the surrounding population, and the general public. The area for paving has been estimated based on site plans, environmental reports, observation of existing conditions. Actual area shall be based on land survey and engineering design activities.

2.7 EXCLUSION ZONE

For the purpose of this Site Operations Plan, the Exclusion Zone is defined as the area where contaminated media may be encountered during the course of implementing the work plan. In addition to areas of known PCB contamination, areas where drainage controls will be installed shall be incorporated as part of the exclusion zone, including but not limited to detention ponds, stormwater retention basins, trenches and delay structures.

2.8 PROJECT ORGANIZATION

The following and organizations key personnel are critical to the planned activities at the Site. The organization structure will be reviewed and updated periodically by the facility coordinator.

- Lead Agency:
  U.S. Environmental Protection Agency, Region II
  Removal Action Branch
  2890 Woodbridge Avenue
  Edison, NJ 08837

- Owner:
  DSC of Newark Enterprises, Inc.
  70 Blanchard Street
  Newark, NJ 07105

- Owner's Consultant:
  Oxford Environmental, Inc.

43 Route 46 East
Pine Brook, NJ 07058

- General Contractor:
  To Be Announced

- Subcontractor(s):
  To Be Announced

2.9 KEY PROJECT PERSONNEL

The following organizational chart identifies key project personnel responsible for the oversight and implementation of the Site Operations Plan.

- On-Scene Coordinator (OSC):
  Eric Wilson, U.S. EPA
  Phone: (908) 906-6991

  The OSC shall be the designated authority having jurisdiction over the performance of work on the site and shall ensure compliance with the Order.

- Facility Coordinator:
  Timothy Francisco, Oxford
  Phone: (201) 244-0600

  The facility coordinator, on behalf of the Respondent (DSC of Newark Enterprises, Inc.), is responsible for the overall management, coordination and implementation of the Site Operations Plan. All references to Site Manager in the HASP shall be understood to mean the Facility Coordinator or his designee. All references to Project Leader within the HASP shall be understood to mean the contractor's supervisor.

2.10 SITE HEALTH & SAFETY PERSONNEL

Oxford Environmental, Inc. will be responsible for overall site health and safety monitoring and oversight during the installation of the soil cap, paving activities and associated subsurface construction activities (e.g. soil erosion and drainage control).

The following Oxford personnel are assigned to implement and enforce this HASP:

- Site Health & Safety Officer (HSO): Harold Blaine
  The Site Health and Safety Officer (HSO) has total responsibility for ensuring that the provisions of this HASP are adequate and implemented in the field. The Site HSO will be responsible for ensuring compliance with the provisions of the HASP, including, but not limited to site control and security, air monitoring, evaluation of personal protective equipment, appropriateness of respiratory protection, assessment of hazards, emergency

notification, and decontamination. It is also the responsibility of the HSO to conduct site inspections on a regular basis in order to ensure the effectiveness of this plan. Changing field conditions may require decisions to be made concerning adequate protection programs.

- Health & Safety Manager (HSM): Timothy Francisco
  The HSM will be responsible for conducting health and safety audits and provide technical consultation on health and safety issues and concerns that arise during the course of the project.

2.11 SITE CONTROL

An on-site command post shall be established on-site. The HSO shall coordinate site access and security on site. A safe perimeter will be established in all directions of the area of concern. No unauthorized persons shall be allowed within this area. The buddy system shall be employed during all field operations.

The prevailing wind conditions are variable and shall be assessed by the HSO on a daily basis prior to the performance of work activities. The Support Zone (clean area) and Contamination Reduction Zone (decontamination area) shall be located upwind from the Exclusion Zone (the contaminated area or Hot Zone.

Control boundaries shall be established and designated as follows:

Control Zone	*Control Boundary*	*Wind Direction*
Exclusion (Hot) Zone	Safety fencing / barricade (orange)	⇧
Contamination Reduction (Decontamination) Zone	Caution tape (yellow)	⇧
Support Zone (Field Office)	Traffic cones (safety orange)	⇧

All personnel arriving or departing the site shall log in and out with the record-keeper or HSO. All activities on site must be cleared through the Site Manager or EPA's OSC. All other visitors site shall check in with the Health and Safety Officer or Project Leader. Upon satisfactory presentation of credentials and training certifications, he/she shall log in and out with the record-keeper.

All activities of the visitor on site must be cleared through the Project Leader prior to commencing them. Any person found to be in violation of the HASP, poses a potential liability to the safety and welfare of personnel, the general public or the environmental, or as determined by the HSO/Site Manager shall be escorted off-site and shall not be allowed back on site under any circumstances.

2.12 WARNING SIGNS

The following warning sign shall be posted at all entrances to the site and at intervals along the proposed property boundary fence line.

HAZARDOUS WASTE SITE
DANGER
HAZARDOUS MATERIAL PRESENT
DO NOT ENTER
AUTHORIZED PERSONNEL ONLY

2.13 HAZARD ASSESSMENT

The following substance(s) are known or suspected to be present on site. The estimated concentration of contaminants to be encountered, the media in which those hazards exist, and the potential routes for exposure are also provided below:

Known or Suspected Contaminants Present On Site	*Route of Exposure, Health Hazard, Symptoms, and Exposure Limits*
Polychlorinated Biphenyls (PCBs, Chrolodiphenyl, Aroclor® 1254, Aroclor® 1248) CAS No. 11097-69-1	Hazard: Inhalation, Absorption (Skin), Ingestion, Contact (Skin and/or eye contact) Symptoms: Eye irritation, chloracne; liver damage; carcinogen NIOSH: 0.001 mg/m3 OSHA: 0.5 mg/m3
Lead (as Pb)	Hazard: Inhalation, Ingestion, Contact (Skin and/or eye contact) Symptoms: Weakness, fatigue insomnia, facial pallor, anorexia, malnutrition, constipation, abdominal pain, colic, anemia, gingival lead line, tremor, paralysis wrist/ankles, encelopathy, neoropathy, eye irritation, hypotension NIOSH: 0.100 mg/m3 OSHA: 0.05 mg/m3 IDLH: 1700 mg/m3

Arsenic (inorganic as As) CAS No. 7440-38-2	Hazard: Inhalation, Ingestion, Absorption (Skin), Contact (Skin and/or eye contact), carcinogen Symptoms: ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, respiratory irritation, hyperpig of skin NIOSH: 0.002 mg/m3 (15-min) OSHA: 0.010 mg/m3 IDLH: 100 mg/m3
Cadmium (dust) CAS No. 7440-43-9	Hazard: Inhalation, Ingestion, carcinogen Symptoms: pulmonary edema, dyspnea, cough, chest tightness, substernal pain, headaches, chills, muscle aches, nausea, vomiting, diarrhea, anosmia, emphysema, proteinuria, mild anemia NIOSH: lowest feasible conc. OSHA: 0.2 mg/m3, C 0.6 mg/m3 IDLH: 50 mg/m3
Chromium CAS No. 7440-47-3	Hazard: Inhalation, Ingestion Symptoms: histolilogic fibrosis of lungs NIOSH: 0.5 mg/m3 OSHA: 1.0 mg/m3 IDLH: not established
Copper CAS No. 7440-50-8	Hazard: Inhalation, Ingestion, Contact (Skin and/or eyes) Symptoms: irritaation of nasal mucus membranes/pharynx, nasal perforation, eye irritation, metallic taste, dermatitis NIOSH/OSHA: 1.0 mg/m3 IDLH: not established

Mercury (metallic) CAS No. 7439-97-6	Hazard: Inhalation, Absorption (skin), Contact (Skin and/or eyes) Symptoms: cough, chest pain, dyspnea, bronchial pneuitis, trèmor, insomnia, irritability, indecision, headaches, fatigue, weakness, stomatitis, salivation, gastrointestinal disturbance, anorexia, low weight, proteinuria, eye and skin irritation NIOSH/OSHA: 0.05 mg/m3 (skin) IDLH: 28 mg/m3
Silver (metal dust) CAS No. 7440-22-4	Hazard: Inhalation, Ingestion, Contact (Skin and/or eyes) Symptoms: blue-gray eyes, nasal septum, throat, skin; skin irritation, ulceration; gastrointestinal disturbance NIOSH/OSHA: 0.01 mg/m3 IDLH: not established
Zinc CAS No. 7440-66-6	Hazard: Inhalation Symptoms: sweet, metallic taste; dry throat, cough, chills, fever; tight chest, dyspnea, rales, reduced pulmonary function; headaches; blurred vision; muscle camps, low back pain; nausea,; vomiting; fatigue, malaise NIOSH/OSHA: 5 mg/m3; STEL 10 mg/m3 IDLH: not established
1,2-Dichloroethene CAS No. 156-60-5	Hazard: Inhalation, Ingestion, Contact (skin) Symptoms: irritation of eye, respiratory system; CNS depression NIOSH/OSHA: 200 ppm (790 mg/m3) IDLH: 4000 ppm

Trichloroethene CAS No. 79-01-6	Hazard: Inhalation, Ingestion, Contact (skin), carcinogen Symptoms: headaches, vertigo; viusal disturbance, tremors, somnia, nausea, vomiting,; eye irritation; dermatitis; cardiac arryhthmias, paresthesia NIOSH: 25 ppm OSHA: 50 ppm (270 mg/m3), STEL 200 ppm (1080 mg/m3) IDLH: 1000 ppm

Source: NIOSH Pocket Guide to Chemical Hazards, 1990.

Additional hazards may be encountered on site, but have not been identified. When they are identified, a hazard assessment shall be performed for each substance. Hazardous substance information form(s) for the identified substance(s) are attached.

2.14 EMPLOYEE TRAINING

All personnel involved with on-site operations shall meet the following minimum requirements for training: initial OSHA 40-hour and annual 8-hour refresher Hazardous Waste Operations and Emergency Response training in accordance with 29 CFR 1910.120(e).

2.14.1 PROJECT PERSONNEL

The following table summarizes the training of project personnel.

Name	*Title/Function*	*Training*
Timothy Francisco	Environmental Engineer Project Leader and Alternate Site HSO	40-hour HAZWOPER 8-hour Site Supervisor
Gary Boyer	Sr. Environmental Engineer Project Engineer	40-hour HAZWOPER 8-hour Site Supervisor
Harold Blaine	Project Scientist Site HSO	40-hour HAZWOPER Worker 8-hour Site Supervisor CPR and First Aid

2.14.2 OTHER PERSONNEL

1. General site workers (such as equipment operators, general laborers and supervisory personnel) engaged in hazardous substance removal or other activities which expose or

potentially expose workers to hazardous substances and health hazards shall receive a minimum of 40 hours of instruction off the site, and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor.

2. Workers on site only occasionally for a specific limited task (such as, but not limited to, ground water monitoring, land surveying, or geo-physical surveying) and who are unlikely to be exposed over permissible exposure limits and published exposure limits shall receive a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.

3. Workers regularly on site who work in areas which have been monitored and fully characterized indicating that exposures are under permissible exposure limits and published exposure limits where respirators are not necessary, and the characterization indicates that there are no health hazards or the possibility of an emergency developing, shall receive a minimum of 24 hours of instruction off the site and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.

4. Workers with 24 hours of training, and who become general site workers or who are required to wear respirators, shall have the additional 16 hours and two days of training necessary to total the training.

5. Management and supervisor training. On-site management and supervisors directly responsible for, or who supervise employees engaged in, hazardous waste operations shall receive 40 hours initial training, and three days of supervised field experience and at least eight additional hours of specialized training at the time of job assignment on such topics as, but not limited to, the employer's safety and health program and the associated employee training program, personal protective equipment program, spill containment program, and health hazard monitoring procedure and techniques.

6. Qualifications for trainers. Trainers shall be qualified to instruct employees about the subject matter that is being presented in training. Such trainers shall have satisfactorily completed a training program for teaching the subjects they are expected to teach, or they shall have the academic credentials and instructional experience necessary for teaching the subjects. Instructors shall demonstrate competent instructional skills and knowledge of the applicable subject matter.

7. Training certification. Employees and supervisors that have received and successfully completed the training and field experience shall be certified by their instructor or the head instructor and trained supervisor as having successfully completed the necessary training. A written certificate shall be given to each person so certified. Any person who has not been so certified or who does not meet the requirements shall be prohibited from engaging in hazardous waste operations.

8. Emergency response. Employees who are engaged in responding to hazardous emergency situations at hazardous waste clean-up sites that may expose them to hazardous substances shall be trained in how to respond to such expected emergencies.

9. Refresher training. Employees, managers and supervisors shall receive eight hours of refresher training annually, any critique of incidents that have occurred in the past year that can serve as training examples of related work, and other relevant topics.

10. Equivalent training. Employers who can show by documentation or certification that an employee's work experience and/or training has resulted in training equivalent to that training shall not be required to provide the initial training requirements of those paragraphs to such employees and shall provide a copy of the certification or documentation to the employee upon request. However, certified employees or employees with equivalent training new to a site shall receive appropriate, site specific training before site entry and have appropriate supervised field experience at the new site. Equivalent training includes any academic training or the training that existing employees might have already received from actual hazardous waste site work experience.

2.14.3 SUBCONTRACTORS & VISITORS

All subcontractors and their employees shall meet the minimum training requirements as set forth in 29 CFR 1010.120(e), OSHA 40-hour Hazardous Waste Operations. Authorized visitors shall also meet these training requirements. Evidence of training shall be submitted prior to commencement of site activities.

2.15 MEDICAL SURVEILLANCE

2.15.1 APPLICABILITY

Oxford Environmental, Inc. maintains a medical surveillance program in accordance with 29 CFR 1910.120(f). The medical surveillance program has been instituted for:

1. All employees who are or may be exposed to hazardous substances or health hazards at or above the permissible exposure limits or, if there is no permissible exposure limit, above the published exposure levels for these substances, without regard to the use of respirators, for 30 days or more a year;

2. All employees who wear a respirator for 30 days or more a year or as required by 29 CFR 1910.134;

3. All employees who are injured, become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation; and

4. Members of HAZMAT teams.

Note: Organizations and entities involved in the project shall be responsible for maintaining medical surveillance program for their employees.

2.15.2 FREQUENCY OF MEDICAL EXAMINATIONS

Medical examinations and consultations shall be made available to each employee covered under the medical surveillance program on the following schedules:

1. Prior to assignment;

2. At least once every twelve months for each employee covered unless the attending physician believes a longer interval (not greater than biennially) is appropriate;

3. At termination of employment or reassignment to an area where the employee would not be covered if the employee has not had an examination within the last six months;

4. As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that the employee has been injured or exposed above the permissible exposure limits or published exposure levels in an emergency situation;

5. At more frequent times, if the examining physician determines that an increased frequency of examination is medically necessary.

2.15.3 EXAMINATIONS FOR INJURY OR EXPOSURE

For employees who may have been injured, received a health impairment, developed signs or symptoms which may have resulted from exposure to hazardous substances resulting from an emergency incident, or exposed during an emergency incident to hazardous substances at concentrations above the permissible exposure limits or the published exposure levels without the necessary personal protective equipment being used:

1. As soon as possible following the emergency incident or development of signs or symptoms;

2. At additional times, if the examining physician determines that follow-up examinations or consultations are medically necessary.

2.15.4 CONTENT OF MEDICAL EXAMINATIONS AND CONSULTATIONS.

1. Medical examinations include a medical and work history (or updated history if one is in the employee's file) with special emphasis on symptoms related to the handling of hazardous substances and health hazards, and to fitness for duty including the ability to

wear any required PPE under conditions (i.e., temperature extremes) that may be expected at the work site.

2. The content of medical examinations or consultations made available to employees shall be determined by the attending physician. The guidelines in the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities shall be consulted.

3. All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and shall be provided without cost the employee, without loss of pay, and at a reasonable time and place.

4. Information provided to the physician. The employer shall provide one copy of the standard and its appendices to the attending physician, and in addition the following for each employee:

   (i) A description of the employee's duties as they relate to the employee's exposures.
   (ii) The employee's exposure levels or anticipated exposure levels.
   (iii) A description of any personal protective equipment used or to be used.
   (iv) Information from previous medical examinations of the employee which is not readily available to the examining physician.
   (v) Information required by 29 CFR 1910.134.

2.15.5 PHYSICIAN'S WRITTEN OPINION

Oxford shall obtain and furnish the employee with a copy of a written opinion from the attending physician containing the following:

1. The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from work in hazardous waste operations or emergency response, or from respirator use.

2. The physician's recommended limitations upon the employee's assigned work.

3. The results of the medical examination and tests if requested by the employee.

4. A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

The written opinion shall not reveal specific findings or diagnoses unrelated to occupational exposures.

2.15.6 RECORDKEEPING

An accurate record of the medical surveillance shall be retained. This record shall be retained for the period specified and meet the criteria of 29 CFR 1910.20. The records shall include at least the following information:

1. The name and social security number of the employee;

2. Physician's written opinions, recommended limitations, and results of examinations and tests;

3. Any employee medical complaints related to exposure to hazardous substances;

4. A copy of the information provided to the examining physician by the employer, with the exception of the standard and its appendices.

The records shall be retained for a period of employment and as specified in 29 CFR 1910.20.

2.16 PERSONAL PROTECTIVE EQUIPMENT

The type of protective equipment recommended for this project has been based on the preliminary evaluation of environmental studies and prior experience with projects of the same type. Any changes or revisions of the recommended personal protective measures shall be by Oxford's Certified Industrial Hygienist (CIH), his designated representative or the Health & Safety Officer.

The following prescribes a personal protection plan when possible exposure to hazardous materials exists. Workers involved with hazardous materials shall be assigned personal protective equipment and proper instruction on its proper use and maintenance.

Personnel who handle material known to be hazardous, or of unknown toxicity are required to take sufficient precautions. It is the responsibility of the designated Health and Safety Officer (HSO) to specify the correct level of protective equipment to be used on the job. All field personnel shall receive training in the proper use and methods of wearing protective equipment. The level of protective equipment is determined by the types and levels of material present at the site. These levels are determined through specific knowledge of the hazardous materials and air monitoring as described in this Plan.

2.17 SITE SPECIFIC LEVEL OF PROTECTION

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

Location	*Job Functions*	*Recommended Level of Protection*
Exclusion Zone	Excavation Grading Paving Hydroseeding Soil Sampling Silt Fence Installation	Level B☐ Level C☐ Mod. Level C☒ Level D ☐ • For each specific task, conduct continuous monitoring and utilize recommended level of protection. • Once it is established that airborne concentrations of contaminants are undetectable or below the action level, downgrade PPE to modified Level C. • If real time air monitoring indicates any detectable airborne organic vapors, dust levels above the action level or IDLH conditions, upgrade PPE as directed by HSO.
Contamination Reduction Zone	Decontamination (Personnel and Equipment) Sample Management	Level B☐ Level C☐ Mod. Level C☒ Level D ☐ • Conduct real time monitoring as indicated in the monitoring schedule. • If airborne contaminant concentrations exceed the Action Levels, evaluate the scope of work, work procedures, and/or engineering controls to minimize airborne concentrations. • If airborne contaminant concentrations exceed the OSHA Permissible Exposure Limits (PELs), upgrade PPE as directed by HSO.

Support Zone	Mobilization Demobilization Deliveries Office Trailer Break Areas	Level B☐ Level C☐ Mod. Level C☒ Level D ☐ • Conduct real-time monitoring as indicated in the monitoring schedule. • In the event, airborne contaminant concentrations are detectable, the HSO take precautionary measures to evacuate the zone, isolate the area, determine the source, and take appropriate measures to eliminate the source. • Under no circumstances shall the Support Zone be occupied until cleared by the HSO.

2.17.1 SPECIFIED PROTECTIVE EQUIPMENT

Based on the information gathered from previous site investigations and analytical data, the following site specific protective equipment is provided as the minimum recommended level of protection to be utilized on site.

Modified Level C	*Level C*
• Hard hat • Safety glasses/goggles • Nitrile gloves (outer) • Latex gloves (inner) • Tyvek or splash apron • Disposable booties (chemical resistant) • Splash aprons is recommended when handling contaminated water or equipment. • Full-face air purifying respirator (on-hand)	• Hard hat • Safety glasses/goggles • Nitrile gloves (outer) • Latex gloves (inner) • Full-face air purifying respirator • Tyvek or splash apron • Disposable booties (chemical resistant) • Splash aprons is recommended when handling contaminated water or equipment.

Important: Changes to the above levels of protection shall be made by the HSO and Project Leader.

2.17.2 CHANGING FIELD CONDITIONS

In the event of changing field conditions, including, but not limited to new work tasks, uncharacterized work areas, adverse weather conditions, or elevated airborne concentrations of contaminants from air monitoring data, continuous monitoring shall be implemented. If the action levels are reached or exceeded, Level C personal protective equipment shall be instituted. If the permissible exposure limits are reached or exceeded, reevaluate the situation and take appropriate measures to minimize airborne concentrations.

2.18 SITE MONITORING

2.18.1 MONITORING OBJECTIVES

Health and safety (H&S) monitoring will be conducted on the site during all field activities to accomplish the following objectives:

1. To ensure proper selection of personal protective equipment;

2. To delineate areas where personal protection is needed;

3. To evaluate the potential health effects of exposure to contaminants; and

4. To protect and safeguard the health and safety of the workers, the general public and the environment.

2.18.2 EXPOSURE MONITORING

1. Monitoring shall be performed where there may be a question of employee exposure to hazardous concentrations of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment so that employees are not exposed to levels which exceed permissible exposure limits, or published exposure levels if there are no permissible exposure limits, for hazardous substances.

2. Air monitoring shall be used to identify and quantify airborne levels of hazardous substances and safety and health hazards in order to determine the appropriate level of employee protection needed on site.

2.18.3 INITIAL ENTRY

Upon initial entry, representative air monitoring shall be conducted to identify and IDLH condition, exposure over permissible exposure limits or published exposure levels, exposure over a radioactive material's dose limits or other dangerous condition such as the presence of flammable atmospheres or oxygen-deficient environments.

2.18.4 PERIODIC MONITORING

Periodic monitoring shall be conducted when the possibility of an IDLH condition or flammable atmosphere has developed or when there is indication that exposures may have risen over permissible exposure limits or published exposure levels since prior monitoring. Situations where it shall be considered whether the possibility that exposures have risen are as follows:

(i) When work begins on a different portion of the site.
(ii) When contaminants other than those previously identified are being handled.
(iii) When a different type of operation is initiated (e.g., drum opening as opposed to exploratory well drilling).
(iv) When employees are handling leaking drums or containers or working in areas with obvious liquid contamination (e.g., a spill or lagoon).

2.18.5 MONITORING OF HIGH-RISK EMPLOYEES

After the actual clean-up phase of any hazardous waste operation commences (for example, when soil, surface water or containers are moved or disturbed), Oxford will monitor those employees likely to have the highest exposures to hazardous substances and health hazards likely to be present above permissible exposure limits or published exposure levels by using personal sampling frequently enough to characterize employee exposures.

If the employees likely to have the highest exposure are over permissible exposure limits or published exposure limits, then monitoring shall continue to determine all employees likely to be above those limits.

Oxford may utilize a representative sampling approach by documenting that the employees and target chemicals chosen for monitoring are based on the criteria stated above.

2.19 MONITORING INSTRUMENTATION

Direct reading instruments will be used to give instantaneous information concerning levels of contaminants. These shall include but are not limited to:

1. Combustible gas/oxygen detector for detection of flammable or explosive atmospheres and oxygen deficiency;

2. Organic vapor meter (OVM) or photoionization detector (PID) for organic vapors, specifically *1,2-Dichloethene and Trichloroethene.*

3. Detector tubes for monitoring specific air contaminants; and

4. Respirable dust monitor for total nuisance and toxic dusts.

All field screening and monitoring devices shall be operated by a qualified individual knowledgeable about the instrument's operating principles and limitations.

2.20 MONITORING SCHEDULE

The above monitoring instruments shall be used on site at the specified intervals and locations:

Monitoring Instrument	*Exclusion Zone*	*Contamination Reduction Zone*	*Support Zone*
Combustible Gas Indicator/ Oxygen Monitor	Daily	Daily	Daily
Detector Tubes	As Needed	As Needed	As Needed
OVM/PID	Hourly	Hourly	Daily
Respirable Dust Monitor	Continuous	Hourly	Daily
Personal Air Sampling	For Exposure Assessment	For Exposure Assessment	For Exposure Assessment

2.20.1 ACTION LEVELS

Exceeding the following Action Levels (AL) will require the re-evaluation of potential hazards, engineering controls, personal protective equipment, or work procedures by the HSO, and the appropriate response to be taken.

Hazard	*Action Level*	*Response*
Flammability Combustibility	10% of LEL	stop work, evacuate work area, determine source if possible; ventilate area, re-occupy as directed by HSO
Oxygen Deficiency	<19.5%	stop work, evacuate area; wait until oxygen content is greater than 19.5%
Organic Vapors (instrument calibrated to Methane)	0.1 ppm	stop work, determine source if possible; if detectable re-assess personal protective equipment
Total Nuisance Dust (incl. heavy metals)	2.5 mg/m^3	stop work, determine source if possible; if detectable re-assess PPE.

2.21 DUST MONITORING

Dust monitoring shall be performed using direct-reading respirable dust monitor (GCA Miniram) and OSHA/NIOSH approved air sampling methods via air filter for laboratory analysis. Due to the presence of several contaminants, the following table of calculated exposure limits shall be utilized to determine exposure limits:

Site Contaminants	OSHA PEL (mg/m^3)	ACGIH TLV (mg/m^3)	Soil $Conc._{max}$ (ppm)	$Conc._n/El_n$ (ppm)
PCBs	0.5	0.001	22000	44000
Lead	0.05	0.1	340	6800
Cadmium	0.005	0.0025	19	3800
			Total	54600

Calculating the Exposure Limit of Mixture* :

$$EL_{mix} = \frac{(10^6 \text{ mg/kg}) / \text{Safety Factor})}{(conc_1/EL_1 + conc_2+EL_2+...conc_n/El_n)}$$

$$EL_{mix} = \frac{10^6 \text{ mg/kg} / \quad 4}{54600} = 4.58 \text{ mg/m}^3$$

Therefore the site-specific exposure limit to contaminated soil/dust is ***5 mg/m^3***

2.21.1 ACTION LEVELS

Due to the proximity of work areas to occupied businesses and residences, dust control measures will be implemented during all construction activities. If dust observed migrating from work areas to neighboring residential or commercial areas or to occupied buildings within the industrial park, work will stop and dust control measures will be implemented. Work will continue upon satisfactory implementation of dust control measures.

To ensure that dust control measures are implemented when required, dust monitoring shall be conducted continuously in the immediate areas of construction and at perimeter locations downwind of the work areas. When dust monitor readings reach or exceed **an action level of 2.5 mg/m^3** for total nuisance dust, work shall immediately stop and the above dust control measures implemented. Work shall continue upon satisfactory implementation of dust control measures and dust monitor readings are below the action level.

* Establishing Exposure Limits and Selecting Levels of Protection for Hazardous Waste Projects. Marlowe, Christopher S. E., CD Federal Programs Corporation, Fairfax, Virginia.

2.21.2 CORRECTIVE MEASURES

In the event that the dust monitor indicate readings equal to or greater than the action level, work shall immediately cease and the HSO shall reevaluate the work procedures, engineering controls, and implement dust control measures until dust readings are consistently below the action level.

2.22 UNKNOWN HAZARDS

In all situations where the types of potentially hazardous waste material is unknown, maximum protection levels are maintained until the hazards can be adequately assessed. A decision to downgrade or upgrade the level of personnel protection by the HSO will be based on:

1. Readings from real time monitoring instrumentation (i.e. explosimeter, organic vapor analyzer, toxic gas monitor)

2. Visual observations such as stressed vegetation, wind, dust, temperatures, discoloration of soils, evidence of leaking drums, product vessels.

3. Sensory observations such as odors and fumes

4. Specific information of the known chemical contaminants (i.e. low flash point, reactivity)

2.23 COMMUNICATIONS PROCEDURES

2.23.1 BUDDY SYSTEM

The buddy system shall be utilized when repsiratory protection is in use. Line of sight will be established during all other operations.

2.23.2 HAND SIGNALS

- thumbs up with motion ..... lift up
- thumbs down ..... no good, try again
- point left ..... move this way, follow me
- point right ..... move this way, follow me
- point up with circling motion ..... lift up
- one hand open ..... stop
- ..... both hands open with back up
- point down ..... wait here or pour here
- fore finger and index finger up ..... pause, wait a minute
- thumb and fore finger touching ..... okay

2.23.3 RADIO COMMUNICATIONS

Channel (TBD) has been designated as the radio frequency for personnel in the Exclusion Zone. All other on-site communications will use channel (TBD).

Personal in the Exclusion Zone should remain in constant radio communication or within sight of the Project Leader. Any failure of radio communication requires an evaluation of whether personnel should leave the Exclusion Zone.

2.24 DECONTAMINATION

Decontamination procedures ensure that personnel or equipment in the contamination zone do not spread or carry hazardous materials into the decontamination zone. The procedures will be revised whenever the type of personal protective clothing or equipment changes, the site conditions change, or the site hazards are reassessed based on new information.

2.24.1 DESIGNATED DECONTAMINATION AREA

Decontamination areas shall be established prior to the commencement of any site activities, without exception. All site personnel shall review and be oriented to site-specific safety, work practices, decontamination and emergency procedures prior to entering the Exclusion Zone. A designated area will be established for personnel decontamination and equipment decontamination. Personnel and equipment decontamination should be separated by no less than 25 feet or as designated by the HSO. The equipment decontamination area should be downwind of the personnel decontamination area.

2.24.2 PERSONNEL DECONTAMINATION

All workers entering the exclusion, contamination reduction zones shall employ the correct procedures for decontamination and for changing from contaminated clothing to clean clothing as described below:

Station	*Type*	*Decontamination Procedure*
1	Plastic sheet placed on ground downwind of personnel decontamination stations.	Field Equipment - Drop field equipment (sampling equipment, instruments and samples) on sheet.
2	A wash tub equipped with large brush filled with a decontamination solution (soap and water).	Outer Garments - Use scrub brush to remove gross contamination.
3	A second wash tub filled with rinse solution ("clean" water).	Outer Garments - Rinse off decontamination solution.
4	A third wash tub equipped	Outer Garments - Use scrub brush to

	with large brush filled with decontamination solution (soap and water).	remove gross contamination.
5	A fourth wash tub filled with rinse solution ("clean" water).	Outer Garments - Final rinse decontamination solution from outer garments with clean water.
6	Two buckets filled with decontamination solution (soap and water)	Boots and Gloves - Use scrub brush and decontamination solution to remove all gross contamination.
7	One bucket filled with rinse solution ("clean" water)	Boots and Gloves - Rinse decontamination from boots and gloves with clean water.
8	A trash can with plastic liner	Disposable Items - Remove disposable items such as gloves, boots, Tyvek suits in trash can.
9	Plastic sheet on ground	Respirators - Drop respiratory equipment on plastic sheet for decontamination.
10	Trash can with plastic liner	Clothing - Place any clothing items used under protective clothing in plastic lined trash can and don clean street clothing.

2.24.3 EQUIPMENT DECONTAMINATION

All equipment brought into the exclusion and contamination reduction zones shall be decontaminated using the following procedures:

Station	***Type***	***Decontamination Procedure***
1	Plastic sheet placed on ground downwind of personnel decontamination stations.	Field Equipment - Drop field equipment (sampling equipment, instruments and samples) on sheet.
2	A wash tub equipped with large brush filled with a decontamination solution (soap and water).	Soap wash and rinse, solvent rinse, if necessary.
3	Decontamination pad equipped with water hose, brushes and steam cleaning equipment.	Vehicles - Steam clean heavy equipment, if necessary.

2.24.4 GENERAL PROCEDURES

1. Decon wash water for the activities outlined in this plan will be collected for disposal.

2. Disposable clothing or other equipment that is permanently contaminated will be placed in drums for disposal.

3. Decontamination solutions may vary based on the exact constituents of the contaminants. Also, the extent to which the decontamination is carried out may be modified to address particular contaminants or situations.

4. Personnel assisting with decontamination will be in Level C protection unless air monitoring or other information requires a higher level of protection.

5. In extreme situations when there may be a question as to the degree of contamination known or substances of a highly toxic nature are suspected, protective clothing will be discarded after use of tested decontamination.

6. All decontamination methods are assessed by the HSO at the beginning of a program and reviewed periodically throughout the lifetime of the program for its effectiveness.

2.24.5 DECONTAMINATION WASTE - TESTING AND DISPOSAL PROCEDURES

1. Wastes consisting of decontamination fluids, sediments and protective clothing shall be placed in approved containers and a representative sample collected for waste characterization (via TCLP).

2. Waste streams found to exceed the acceptable TCLP levels shall be disposed at an approved facility in accordance with EPA and NJDEP regulations.

3. Waste characterization shall include analysis for PCBs by USEPA SW846, Method 8080.

2.25 EMERGENCY RESPONSE PLAN

2.25.1 EMERGENCY NOTIFICATION LIST

In the event of an emergency, the designated HSO shall for direct and coordinate notification of the appropriate emergency entity listed in the table below.

Agency/Facility	*Phone*
Police	911
Fire / HAZMAT	911
EMS/Ambulance	911
Poison Control Center	800-764-7661
EPA Region II 24-Hour Hotline	908-548-8730
NJ Department of Environmental Protection Hotline	609-292-7172

The HSO will immediately inform the Project Leader of any emergency situations, health & safety recommendations, and any pertinent issues. If the HSO is not on-site, the above list shall be used to notify of the incident. The HSO shall then be notified at (800) 377-8218 after notifying the appropriate emergency entity.

2.25.2 EMERGENCY COMMUNICATIONS

In the event of an emergency and failure of radio communications, the following air horn signals shall be used:

three intermittent short blasts ..... leave the exclusion zone
two short blasts..... emergency, need help
one long blast ..... all clear signal

2.26 CONTINGENCY PLAN

Every remedial/removal action project is posed with the threat of a possible spill of hazardous materials. For this reason, the following requirements are requisite during all operations:

1. In an emergency situation, the HSO or supervision personnel shall implement an emergency contingency plan by assessing the nature of the emergency, notifying appropriate emergency response agency above, and if possible, stabilizing the situation until help arrives.

2. The HSO will coordinate/designate an on-site emergency response team composed of qualified on-site personnel created for specific emergency purposes, such as decontamination, rescue, and entry.

3. Off-site rescue teams (i.e. local HAZMAT) shall be used during particularly dangerous emergency operations, and emergencies beyond the capability of the on-site emergency response team.

2.27 SPILL CONTROL PLAN

The best "emergency spill plan" is planning to avoid and prevent spills. All field procedures will be performed with spill prevention as a key factor. In the event of accidental spillage, the following spill response procedures shall be initiated by on-site personnel if is can be performed safely.

1. First Aid will be administered to injured/contaminated persons. Any employee observing a spill will act immediately to remove and/or protect injured/contaminated persons from any life-threatening situation. First Aid and/or decontamination procedures will be implemented as appropriate.

2. Warn unsuspecting persons/ vehicles of the hazard. Personnel will act to prevent any unsuspecting persons from coming in contact with spilled materials by alerting other nearby persons and by obtaining assistance of other personnel who are familiar with spill control and cleanup techniques.

3. Stop the spill at the source, if possible. Without taking unnecessary risks, personnel will attempt to stop the spill at the source. Personnel will not expend more than a brief effort prior to notifying the Engineer.

4. Utilizing available personal radio communications or other rapid communication procedures, the Engineer will be notified of the spill, including information on material spilled, quantity, personnel injuries, and immediate life-threatening hazards.

5. Spill assessment and primary containment. The Project Leader will make a rapid assessment of the spill and direct primary containment measures which may include, but are not limited to: (i) construction of a temporary containment berm utilizing on-site clay absorbent, earth or absorbent pads or booms; and (ii) digging a sump, installing a polyethylene liner and diverting the spilled material to the sump.

6. Spill clean-up. Personnel will cleanup all spills following the spill clean-up plan developed by the Project Leader. The Project Leader will supervise the spill clean-up. Most equipment, materials, and supplies necessary to clean up a spill will already be immediately available on site. Such items may include, but are not limited to: front-end loader, shovels, rakes, clay absorbent, polyethylene, personal safety equipment (respirators, gloves, boots,

protective coveralls, hard hats, eye shields), steel drums, pumps, and miscellaneous hand tools.

7. Spill clean-up inspection. The Project Leader will inspect the spill site to determine that the spill has been cleaned up. If necessary, soil water or air samples may be taken and analyzed to demonstrate the effectiveness of the spill clean up effort.

8. Identify the cause of the spill and remedial action to prevent recurrence. The Project Leader will determine the cause of the spill and will determine remedial steps to ensure that recurrence is prevented.

2.28 EMERGENCY MEDICAL CARE

First-aid equipment is available on site at the following locations:

First-aid kit ..... Decontamination Zone
Emergency eye wash ..... Decontamination Zone
Emergency shower ..... Decontamination Zone

2.29 STANDARD EMERGENCY PROCEDURES

The following standard emergency procedures (should be modified as required for incidents) will be used by on site personnel. The Site Safety Officer shall be notified of any on-site emergencies and shall be responsible for ensuring that the appropriate procedures are followed.

2.29.1 PERSONNEL INJURY IN THE EXCLUSION ZONE

1. Upon notification of an injury in the Exclusion Zone, the designated emergency signal shall be sounded.

2. All site personnel shall assemble at the decontamination line.

3. The rescue team will enter the Exclusion Zone (if required) to remove the injured person to the hotline.

4. The Site Safety Officer and Project Team Leader should evaluate the nature of the injury, and the affected person should be decontaminated to the extent possible prior to movement to the Support Zone.

5. The on-site EMT shall initiate the appropriate first-aid; contact should be made for an ambulance and notify the designated medical facility (if required). No persons shall reenter the Exclusion Zone until the cause of the injury or symptoms is determined.

2.29.2 PERSONNEL INJURY IN THE SUPPORT/DECONTAMINATION ZONE

1. Upon notification of an injury in the Support Zone, the Project Team Leader and Site Safety Officer will assess the nature of the injury.

2. If the cause of the injury or loss of the injured person does not affect the performance of site personnel, operations may continue, with the on-site EMT initiating the appropriate first-aid and necessary follow-up as stated above.

3. If the injury increases the risk to others, the designated emergency signal shall be sounded and all site personnel shall move to the decontamination line for further instructions. Activities on site will stop until the added risk is removed or minimized.

2.29.3 FIRE/EXPLOSION

1. Upon notification of a fire or explosion on site, the designated emergency signal shall be sounded and all site personnel be assembled at the decontamination line.

2. The fire department shall be alerted and all personnel moved to a safe distance from the involved area.

2.29.4 EQUIPMENT FAILURE

1. If any site worker experiences a failure or alteration of personal protective equipment that affects the protection factor, that person and his/her buddy shall immediately leave the Exclusion Zone. Reentry shall not be permitted until the equipment has been repaired or replaced.

2. If any other equipment on site fails to operate properly, the Project Leader and HSO shall be notified and than determine the effect of this failure on continuing operations on site.

3. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, all personnel shall leave the Exclusion Zone until the situation is evaluated and appropriate actions taken.

2.30 EMERGENCY EGRESS AND EVACUATION

The following emergency escape routes are designated for use in those situations where egress from the Exclusion Zone cannot occur through the decontamination line:

IMPORTANT: In the event of an emergency, the egress route shall be any area immediately and safely accessible by site personnel. Decontamination procedures may be circumvented in an emergency situation.

In all situations, when an on-site emergency results in evacuation of the Exclusion Zone, personnel shall not reenter until:

1. The conditions resulting in the emergency have been corrected.

2. The hazards have been reassessed.

3. The HASP has been reviewed.

4. Site personnel have been briefed on any changes in the HASP.

2.31 DEFINITIONS

"Buddy system" means a system of organizing employees into work groups in such a manner that each employee of the work group is designated to be observed by at least one other employee in the work group. The purpose of the buddy system is to provide rapid assistance to employees in the event of an emergency.

"Clean-up operation" means an operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared-up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

"Decontamination" means the removal of hazardous substances from employees and their equipment to the extent necessary to preclude the occurrence of foreseeable adverse health affects.

"Emergency response" or "responding to emergencies" means a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual-aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance. Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency responses within the scope of this standard. Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.

"Facility" means (A) any building, structure, installation, equipment,pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited,stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any water-borne vessel.

"Hazardous materials response (HAZMAT) team" means an organized group of employees, designated by the employer, who are expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance. The team members perform responses to releases or potential releases of hazardous substances for the purpose of control or stabilization of the incident. A HAZMAT team is not a fire brigade nor is a typical fire brigade a HAZMAT team. A HAZMAT team, however, may be a separate component of a fire brigade or fire department.

"Hazardous substance" means any substance designated or listed under paragraphs (A) through (D) of this definition, exposure to which results or may result in adverse affects on the health or safety of employees;

(A) Any substance defined under section 101(14) of CERCLA;

(B) Any biological agent and other disease-causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such persons or their offspring;

(C) Any substance listed by the U.S. Department of Transportation as hazardous materials under 49 CFR 172.101 and appendices; and

(D) Hazardous waste as herein defined.

"Hazardous waste" means

(A) A waste or combination of wastes as defined in 40 CFR 261.3, or

(B) Those substances defined as hazardous wastes in 49 CFR 171.8.

"Hazardous waste operation" means any operation conducted within the scope of this standard.

"Hazardous waste site" or "Site" means any facility or location within the scope of this standard at which hazardous waste operations take place.

"Health hazard" means a chemical, mixture of chemicals or a pathogen for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, heptaotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes. It also includes stress due to temperature extremes. Further definition of the terms used above can be found in Appendix A to 29 CFR 1910.1200.

"IDLH" or "Immediately dangerous to life or health" means an atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere.

"Oxygen deficiency" means that concentration of oxygen by volume below which atmosphere supplying respiratory protection must be provided. It exists in atmospheres where the percentage of oxygen by volume is less than 19.5 percent oxygen.

"Permissible exposure limit" means the exposure, inhalation or dermal permissible exposure limit specified in 29 CFR Part 1910, Subparts G and Z.

"Published exposure level" means the exposure limits published in "NIOSH Recommendations for Occupational Health Standards" dated 1986 incorporated by reference, or if none is specified, the exposure limits published in the standards specified by the American Conference of Governmental Industrial Hygienists in their publication "Threshold Limit Values and Biological Exposure Indices for 1987-88" dated 1987 incorporated by reference.

"Post emergency response" means that portion of an emergency response performed after the immediate threat of a release has been stabilized or eliminated and clean-up of the site has begun. If post emergency response is performed by an employer's own employees who were part of the initial emergency response, it is considered to be part of the initial response and not post emergency response. However, if a group of an employer's own employees, separate from the group providing initial response, performs the clean-up operation, then the separate group of employees would be considered to be performing post-emergency response and subject to paragraph (q)(11) of this section.

"Qualified person" means a person with specific training, knowledge and experience in the area for which the person has the responsibility and the authority to control.

"Site safety and health supervisor (or official)" means the individual located on a hazardous waste site who is responsible to the employer and has the authority and knowledge necessary to implement the site safety and health plan and verify compliance with applicable safety and health requirements.

"Small quantity generator" means a generator of hazardous wastes who in any calendar month generates no more than 1,000 kilograms (2,205 pounds) of hazardous waste in that month.

"Uncontrolled hazardous waste site," means an area identified as an uncontrolled hazardous waste site by a governmental body, whether Federal, state, local or other where an accumulation of hazardous substances creates a threat to the health and safety of individuals or the environment or both. Some sites are found on public lands such as those created by former municipal, county or state landfills where illegal or poorly managed waste disposal has taken place. Other sites are found on private property, often belonging to generators or former generators of hazardous substance wastes. Examples of such sites include, but are not limited to, surface impoundments, landfills, dumps, and tank or drum farms. Normal operations at TSD sites are not covered by this definition.

TABLE 1 - PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment to protect the body against contact with known or anticipated hazardous substances or chemicals is divided into four categories:

1. *Level A* protection will be worn when the highest level of respiratory skin, eye, and mucous membrane protection is needed.

    a. Pressure demand, self contained breathing apparatus.
    b. Fully-encapsulating chemical resistant suit.
    c. Gloves, inner, chemical resistant
    d. Gloves, outer, chemical resistant.
    e. Boots, chemical resistant depending on suit boot construction, worn over or under suit boot.
    f. Hard hat (under suit).
    g. Coveralls (under suit).
    h. Two-way radio communications (intrinsically safe).

2. *Level B* protection will be selected when the highest level of respiratory protection is needed, but a lesser level of skin and eye protection. Level B protection is the minimum level recommended on the initial site entries until the hazards have been further identified and defined by monitoring, sampling, and other reliable methods of analysis, and personnel equipment corresponding with those findings utilized.

    a. Pressure-demand self contained breathing apparatus; Chemical resistant clothing (overalls and long sleeved.
    b. jacket, coveralls, hooded two piece splash suit, disposable chemical resistant coveralls).
    c. Coveralls (under splash suit).
    d. Gloves, outer, chemical resistant.
    e. Gloves, inner, chemical resistant.
    f. Boots, outer, chemical resistant.
    g. Two-way radio communications (intrinsically safe).
    h. Hard hat.

3. *Level C* protection will be selected when the type of airborne substance is known, concentration measured, criteria for using air-purifying respirators met, and skin and eye exposure is unlikely. Periodic monitoring of the air must be performed.

    a. Full-face, air-purifying respirator (MSHA/NIOSH approved).
    b. Chemical resistant clothing (one piece coverall, hooded two piece chemical) splash suit, chemical resistant hood and apron, disposable chemical resistant coveralls.)
    c. Gloves, outer, chemical resistant. --Gloves, inner, chemical resistant. --Boots, chemical resistant.

d. Cloth coveralls (inside chemical protective clothing). --Two-way radio communications (intrinsically safe).
e. Hard hat.
f. Escape mask (optional).

4. *Level D* is primarily a work uniform. It will not be worn on any site where respiratory or skin hazards exist.

a. Gloves, outer, chemical resistant.
b. Gloves, inner, chemical resistant.
c. Boots, chemical resistant.
d. Safety glasses.
e. Hard Hat.

TABLE 2 - RESPIRATORY PROTECTION GUIDE

The respirator protection guide has been prepared in accordance with OSHA 29 CFR Part 1910.134 which specifies that respirators shall be selected on the basis of the hazards to which workers may be exposed. The American National Standards Institute (ANSI) Z88.2-1980 standard on respiratory practice can be reference for further guidance.

The type of atmospheric concentration of substances need to be identified and may require different level of respiratory protection and skin protection. The following criteria is provided for each level of protection. Selection of the proper personal protection involves meeting one or more criteria.

LEVEL B PROTECTION

1. Atmospheric environments with IDLH concentrations of specific substances that do not represent a skin absorption hazard;
2. Atmospheric environments or airborne contaminant concentrations that do not meet the criteria for use of air-purifying respirators;
3. Atmospheres that contain less that 19.5 percent oxygen;
4. Atmospheric environments with the presence of unknown vapors or gases as indicated by direct-reading organic vapor detection instrument, but vapors and gases that are not suspected of containing high levels of chemicals harmful to skin or capable of being absorbed through intact skin.

LEVEL C PROTECTION

1. Airborne contaminants, liquid splashes, or other direct contact will not adversely affect any exposed skin;
2. Air contaminants have been identified, concentrations measured, and an appropriate respirator canister is available that can remove the contaminant;
3. All criteria for the use of air-purifying respirators are met.

LEVEL D PROTECTION

1. The atmosphere contains no known hazard;
2. Work, functions preclude splashes, immersion, or the potential unexpected inhalation of or contact with hazardous levels of any chemicals.
3. Hazard assessment which initially determines the level of protection to be worn by all personnel will be checked and documented by monitoring procedures.
4. The level of protection depends on the toxicity of chemicals onsite, their concentration in the air, potential for skin contact, flammability characteristics, and general waste site conditions (such as ambient temperature, topography, accessibility, etc.).

GENERAL CONSIDERATIONS

- Atmospheres that are oxygen deficient (less that 19.5% 0_2 or immediately dangerous to life and health (IDLH)--producing an immediate irreversible or effect on health.
- Atmospheres that may contain high concentrations of unknown levels exceeding the Threshold Limit Values (TLV) for known airborne chemicals, (but are not considered to be Immediately Dangerous to Life and Health (IDLH) conditions).
- Atmospheres in which the airborne concentrations of all contaminants is known to be less than 50X the respective ACGIH TLVs and provide good warning properties (taste, smell, and irritation)
- Emergency escape.
- Potential splash of liquid irritant to chest or facial area (full-face respirator not otherwise specified).
- General eye protection while on waste site.
- Emergency rescue.

RESPIRATORY PROTECTION SELECTION

Final selection of respirators is based on the following criteria:

a. Nature of the situation encountered;
b. Activities of workers in the hazardous area;
c. Type of inhalation hazard including physical properties, physiological effects on the body, warning properties (e.g., small or irritation) air borne contaminant concentration, established TLVs for toxic materials and established IDLH concentration of toxic material;
d. Location of hazardous area in relation to nearest source of acceptable air supply;
e. Length of time respirators are to be used.

Air-purifying respirators can be used in atmospheres that contain adequate oxygen (19.5% or more) contaminated with chemicals that have good warning properties (taste, smell, irritation) and are not immediately dangerous to life and health. When air purifying respirators are utilized the TLV of the contaminant and the protection factor of the mask are used to

determine the maximum use limit of cartridge respirator. As a standard practice, cartridges are changed daily.

FIT-TESTING

Oxford provides all employees who may use an air purifying respirator to go through qualitative fit-test.

The following policies are also adhered to in the fitting and use of the respirators:

1. An employee must have passed the fit test.
2. Facial hair, such as beards, sideburns, or certain mustaches that may interfere with the fit test, are not allowed.
3. Persons requiring corrective lenses are provided with specially mounted lenses inside the full-face mask. Under no circumstances may contact lenses and/or glasses be worn while using full-face respirators.

Respirator training is conducted during annual or initial health and safety training. Instruction is given the proper cleaning of respirators, the respirators' capabilities and limitations.

2.32 ACKNOWLEDGEMENT

ALL SITE PERSONNEL HAVE READ THE ABOVE PLAN AND ATTACHED SAFETY AND HYGIENE RULES AND ARE FAMILIAR WITH ITS PROVISIONS.

I certify that I have read the Health & Safety Plan, its content, and limitations and agree to abide by the procedures discussed herein to ensure the health and safety of the project personnel and the general public. I further certify that I have received the proper training as set forth in 29 CFR 1910.120 and recognize that toxic and hazardous materials may exist on the site.

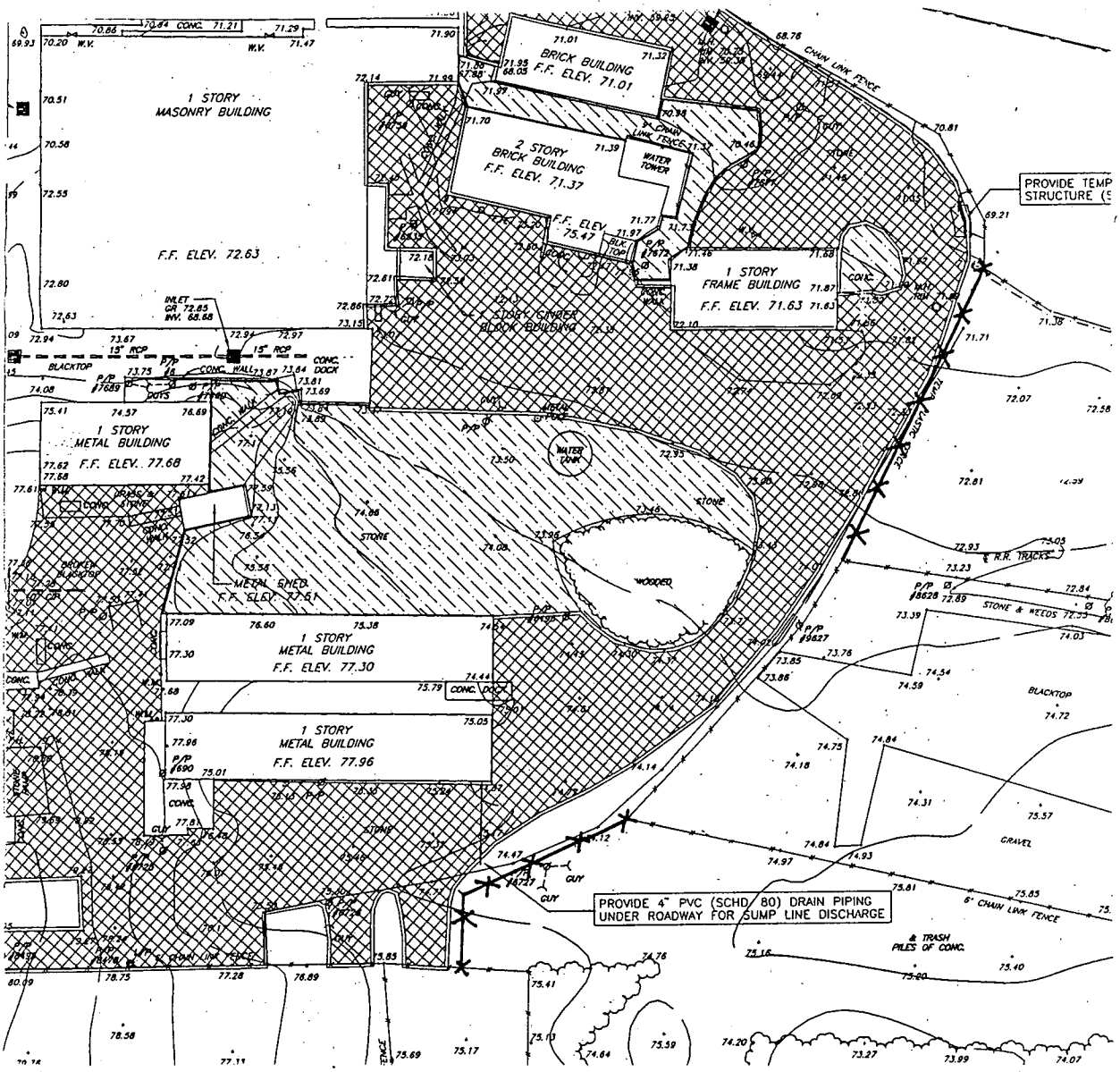
AFFILIATION	PRINT NAME	JOB FUNCTION	SIGNATURE	DATE

SAFETY & HYGIENE RULES

The following list of standing orders shall be enforced in the Exclusion Zone and Contamination Reduction/Decontamination Zone.

- No smoking, eating, or drinking in these zones.
- No horse play.
- No matches or lighters in this zone.
- Check in on entrance to Exclusion zone.
- Check-out on exit from Exclusion zone.
- Implement the communications system.
- Line of sight must be in position.
- Wear appropriate level of protection as defined in this HASP.

END OF SECTION

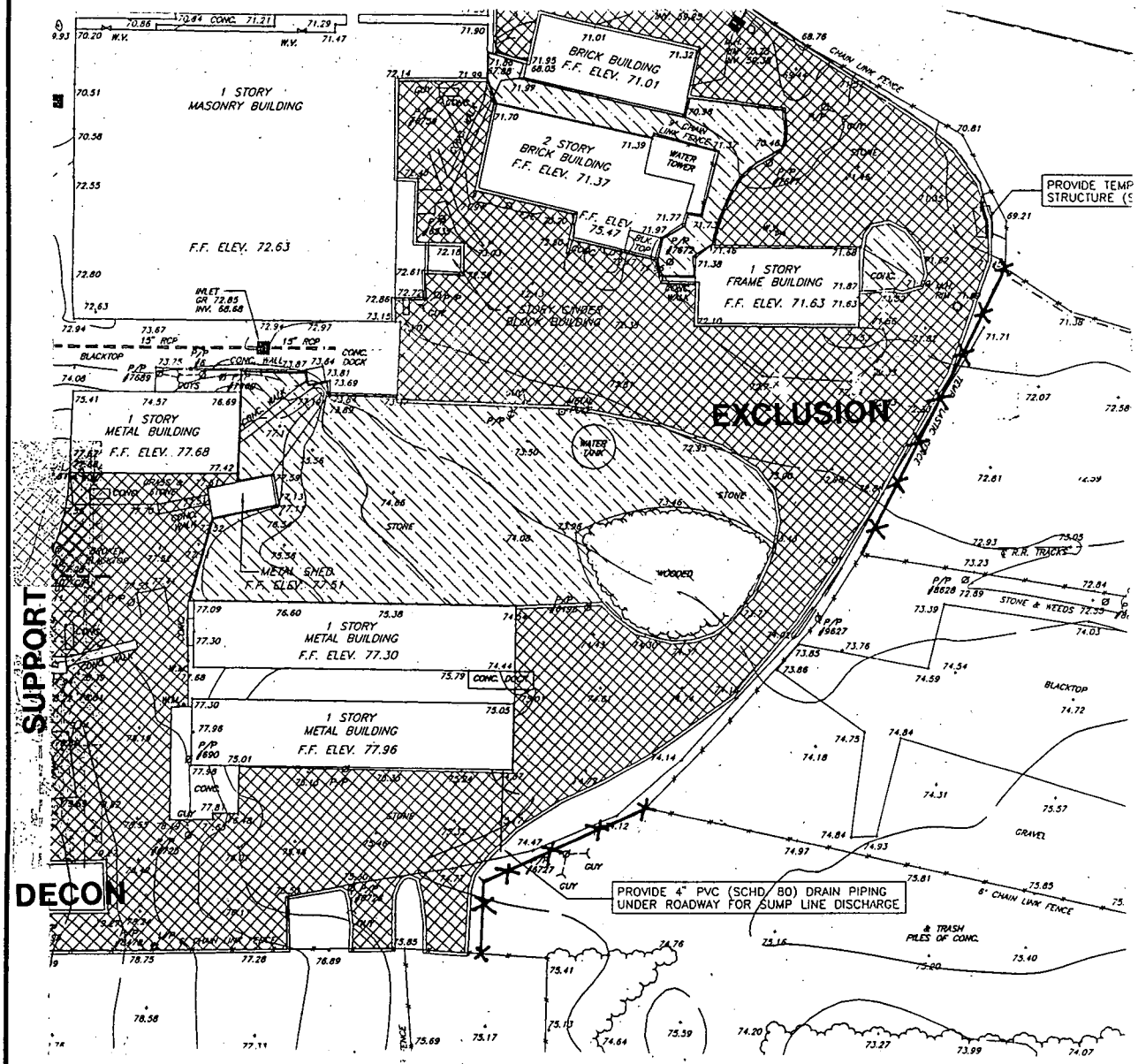


OXFORD ENVIRONMENTAL, INC.
43 Route 46 East, Pine Brook, NJ 07058
Phone (201) 244-0600 · Fax (201) 244-0722

DWG BY	PROJ. NO.	DWG NO
TF	9703	M-1
CHKD BY	SCALE	
	N.T.S.	
DATE:	5/3/97	REV.

SITE MAP

CORNELL-DUBILIER ELECTRONICS SITE
HAMILTON INDUSTRIAL PARK
SOUTH PLAINFIELD, NEW JERSEY



OXFORD ENVIRONMENTAL, INC.
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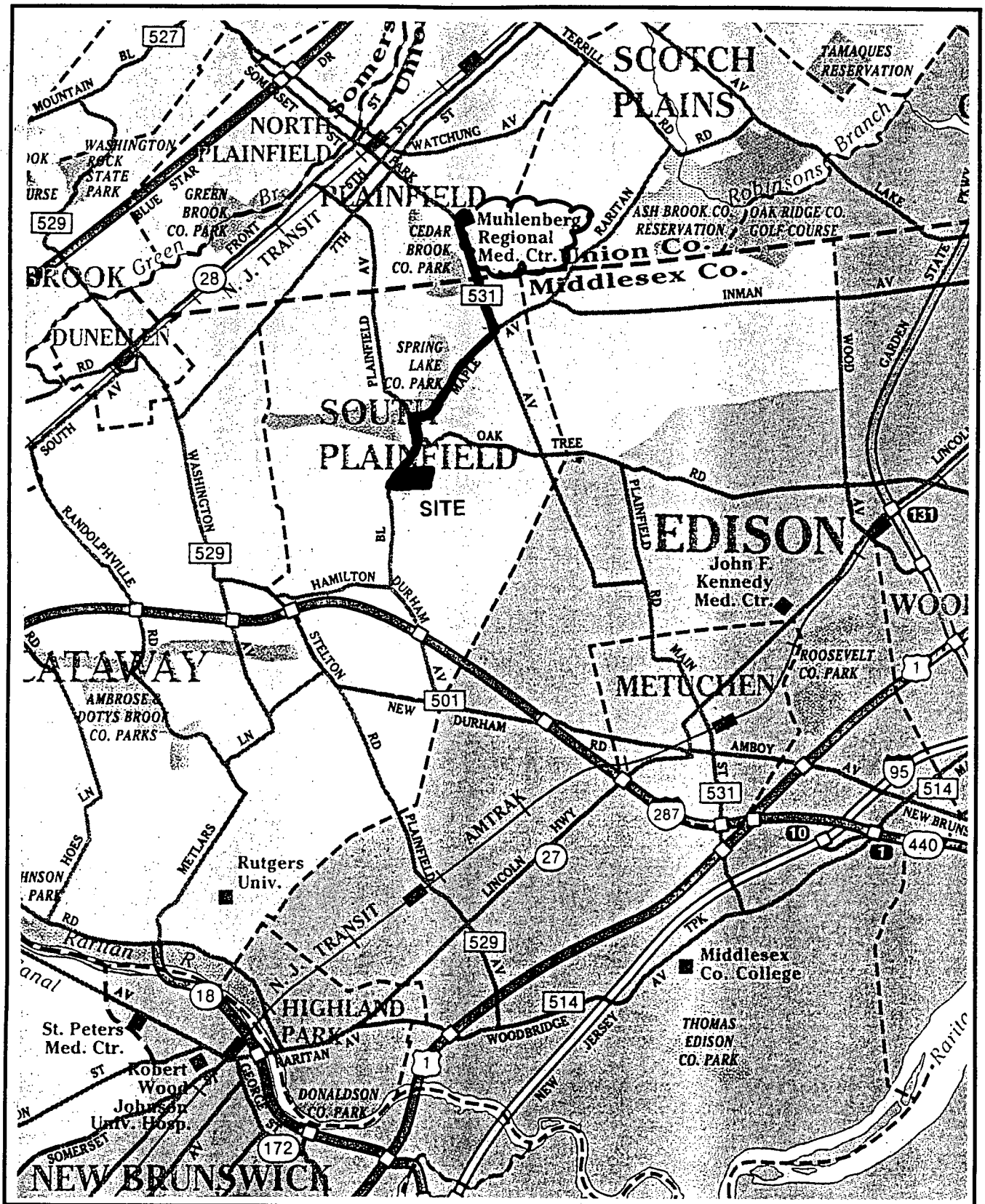
Phone (201) 244-0600 · Fax (201) 244-0722

DWG BY	PROJ. NO.	DWG NO
TF	9703	W-1
CHKD BY	SCALE	
	N.T.S.	
DATE:	5/3/97	REV.

WORK ZONE LAYOUT

CORNELL-DUBILIER ELECTRONICS SITE
HAMILTON INDUSTRIAL PARK
SOUTH PLAINFIELD, NEW JERSEY



OXFORD ENVIRONMENTAL, INC.	DWG BY	PROJ. NO.	DWG NO
43 Route 46 East, Pine Brook, NJ 07058	TF	9703	H-1
Phone (201) 244-0600 · Fax (201) 244-0722	CHKD BY	SCALE	
		N.T.S.	
	DATE:	5/3/97	REV.

MAP TO NEAREST HOSPITAL

CORNELL-DUBILIER ELECTRONICS SITE
HAMILTON INDUSTRIAL PARK
SOUTH PLAINFIELD, NEW JERSEY

APPENDIX A

DRAWINGS

APPENDIX B

SPECIFICATIONS

Project No.: 9703

Contract Specifications:

Site Stabilization / Removal Action

Cornell-Dubilier Electronics Site
333 Hamilton Boulevard
South Plainfield, New Jersey

June 13, 1997

submitted to

U.S. Environmental Protection Agency, Region II
Removal Action Branch
2890 Woodbridge Avenue
Edison, New Jersey 08837

prepared for

DSC of Newark Enterprises, Inc.
70 Blanchard Street
Newark, New Jersey 07105

prepared by

Oxford Environmental, Inc.
43 Route 46 East
Pine Brook, NJ 07058

SPECIFICATIONS FOR SITE STABILIZATION / REMOVAL ACTION

CORNELL-DUBILIER ELECTRONICS SITE
SOUTH PLAINFIELD, NEW JERSEY

JUNE 13, 1997
REV. 0

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00401 Appendix A - List of Subcontractors	1	---	Jun97
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00701 General Conditions - AIA	1	---	Jun97
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SECTION 00020

INVITATION TO BID

Owner: DSC of Newark Enterprises, Inc.
70 Blanchard Street
Newark, New Jersey 07105

Architect/Engineer: Oxford Environmental, Inc.
43 Route 46 East, Suite 702
Pine Brook, NJ 07058

Date: June 13, 1997

Dear Prospective Bidder:

Your firm is invited to submit an offer to the Owner for construction of a facility located at 333 Hamilton Boulevard, South Plainfield, New Jersey, before **2:00 p.m.** local daylight time on the **23rd day of June, 1997**, for the following project:

Site Stabilization/Removal Action at Cornell-Dubilier Electronics Site, South Plainfield, New Jersey: Paving (3000 tons), Fencing (3100 LF), Topsoiling, Seeding, Sediment/Erosion Controls at Existing 27 Acre Industrial Park as part of Removal Action to Eliminate Contact with PCBs and Heavy Metals.

Bidders are required to prequalify to the approval of the U.S. Environmental Protection Agency. Utilize AIA Form A305 or equal approved by the Architect/Engineer.

Bid Documents for a Unit Price contract may be obtained from the office of the Architect/Engineer for a charge of $50.00, non-refundable, for each set. Documents can only be obtained by general contract Bidders. Others may view the Bid Documents at the office of the Architect/Engineer.

Bidders will be required to provide Bid security in the form of a Bid Bond of a sum no less than 10 percent of the Bid Price. Refer to other bidding requirements described in Document 00101 - Instructions to Bidders and Document 00200 - Information Available to Bidders.

Submit your offer on the Bid Form provided. Bidders may supplement this form as appropriate. Your offer will be required to be submitted under a condition of irrevocability for a period of 60 days after submission. The Owner reserves the right to accept or reject any or all offers.

DSC of Newark, Inc.

per: (Authorized signing officer)

encl.

END OF INVITATION TO BID

SECTION 00101

INSTRUCTIONS TO BIDDERS - AIA

1.1 INSTRUCTIONS TO BIDDERS

These Instructions To Bidders amend or supplement the Instructions To Bidders (AIA Document A701, 1987 Edition) and other provisions of the Bidding and Contract Documents.

1.2 RELATED DOCUMENTS

1.2.1 Document 00020 - Invitation To Bid.

1.2.2 Document 00200 - Information Available To Bidders.

1.2.3 Document 00312 - Bid Form - Unit Price.

1.2.4 Document 00400 - Supplements to Bid Form: Appendix A.

1.2.5 Document 00811 - Supplementary Conditions - AIA
1.2.5.1 Contract Time identification.
1.2.5.2 Bond types and values.

2. SITE ASSESSMENT

2.1 SITE EXAMINATION

2.1.1 Examine the project site before submitting a bid.

2.1.2 A mandatory visit to the project site has been arranged for bidders at the following:

Site: Cornell-Dubilier Electronics Site (Hamilton Industrial Park)
333 Hamilton Boulevard
South Plainfield, New Jersey

2.2 PREBID CONFERENCE

2.2.1 A bidders conference has been scheduled for **10:00 a.m.** on the **19th** day of **June 1997** at the Site.

2.2.2 All general contract Bidders are invited.

2.2.3 Representatives of the Owner and Architect/Engineer will be in attendance.

2.2.4 Summarized minutes of this meeting will be circulated to attendees. These minutes will not form part of the Contract Documents.

2.2.5 Information relevant to the Bid Documents will be recorded in an Addendum, issued to Bid Document recipients.

END OF INSTRUCTIONS TO BIDDERS - AIA

DOCUMENT 00200

INFORMATION AVAILABLE TO BIDDERS

1. REPORTS

1.1 SITE OPERATIONS PLAN : WORK PLAN AND HEALTH AND SAFETY PLAN

1.1.1 A copy of an environmental report with respect to the building site is titled as follows and is included with this Document:

Site Operations Plan (SOP): Work Plan and Health and Safety Plan, June 1997, Oxford Environmental, Inc.

1.1.2 This report identifies safety and health hazards and requirements for site stabilization.

2. PUBLIC RECORDS

2.1 EPA DOCUMENTS

2.1.1 Information pertinent to this project is available for review by the public at the EPA Region II Records Offices.

END OF INFORMATION AVAILABLE TO BIDDERS

DOCUMENT 00312

BID FORM - UNIT PRICES

To: DSC of Newark Enterprises, Inc.
70 Blanchard Street
Newark, NJ 07105

Project: Site Stabilization / Removal Action at Cornell-Dubilier Site (Hamilton Industrial Park)
333 Hamilton Boulevard, South Plainfield, New Jersey 07080

Date: .....

Submitted by:
(company name)

.....

(full address)

.....

1. OFFER

Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by the Architect/Engineer for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Unit Prices listed in this bid form in lawful money of the United States of America.

We have included, the required security Bid Bond as required by the Instruction to Bidders.

All applicable federal taxes are included and State of New Jersey taxes are included in the Unit Prices.

All Cash and Contingency Allowances described in Section 01019 - Contract Considerations are included in the Bid Prices.

2. ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for sixty days from the bid closing date.

If this bid is accepted by the Owner within the time period stated above, we will:

- Execute the Agreement within seven days of receipt of acceptance of this bid.
- Furnish the required bonds within seven days of receipt of acceptance of this bid.
- Commence work within seven days after written acceptance of this bid.

If this bid is accepted within the time stated, and we fail to commence the Work, the security deposit shall be forfeited as damages to the Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

3. CONTRACT TIME

If this Bid is accepted, we will:

☐ Complete the Work in accordance with the Project Schedule in the Work Plan (Section 1.13)

☐ Complete the Work in ..... (.....) calendar days from acceptance of this bid.

4. UNIT PRICES

The following are Unit Prices for specific portions of the Work as listed.

ITEM DESCRIPTION	UNIT QUANTITY	UNIT PRICE	ITEM VALUE
PAVING			
Mobilization/Demobilization	1 Lump Sum	[_____]	$_____
Aggregate Type A	150 Tons	[_____]	$_____
Paving	3,000 Tons	[_____]	$_____
Curb	500 Lineal Feet	[_____]	$_____
Piping			
Solid PVC	50 Lineal Feet	[_____]	$_____
Perforated PVC	150 Lineal Feet	[_____]	$_____
Gravel Drain	500 Lineal Feet	[_____]	$_____
Inlet Protection	Lump Sum	[_____]	$_____
Stable Outlets	Lump Sum	[_____]	$_____
FENCING			
Chain Link Fencing	3,100 Lineal Feet	[_____]	$_____
Snow Fencing	2,000 Lineal Feet	[_____]	$_____
Silt Fencing	1000 Lineal Feet	[_____]	$_____
LANDSCAPING			
Topsoiling	600 Cubic Yards	[_____]	$_____
Seeding	6000 Square Yards	[_____]	$_____

5. ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid.

Addendum # ..... Dated .....

Addendum # ..... Dated .....

6. APPENDICES

Submit the following Appendices concurrent with Bid submission:

Appendix A - Subcontractors.

7. BID FORM SIGNATURE(S)

The Corporate Seal of

.....

(Bidder - print the full name of your firm)

was hereunto affixed in the presence of:

.....

(Authorized signing officer, Title)

(Seal)

.....

(Authorized signing officer, Title)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

END OF BID FORM - UNIT PRICES

DOCUMENT 00400

SUPPLEMENTS TO BID FORM

To: DSC of Newark Enterprises, Inc.
70 Blanchard Street
Newark, New Jersey 07105

Project: Site Stabilization / Removal Action at Cornell-Dubilier Site
333 Hamilton Boulevard
South Plainfield, New Jersey 07080

Date: .....

Submitted by: .....
(company name)

(full address) .....

.....

In accordance with Document 00101 - Instructions to Bidders and Document 00312 - Bid Form - Unit Price, we include the Supplements To Bid Form Appendices listed below. The information provided shall be considered an integral part of the Bid Form.

These Appendices are as follows:

Document 00401 - Appendix A - Subcontractors: Include the names of all Subcontractors and the portions of the Work they will perform.

SUPPLEMENTS TO BID FORM SIGNATURE(S)

The Corporate Seal of

.....

(Bidder - please print the full name of your Proprietorship, Partnership, or Corporation)

was hereunto affixed in the presence of:

.....

(Authorized signing officer Title)

(Seal)

.....

(Authorized signing officer Title)

(Seal)

END OF SUPPLEMENTS TO BID FORM

DOCUMENT 00401

APPENDIX A - LIST OF SUBCONTRACTORS

Herewith is the list of Subcontractors referenced in the bid submitted by:

(Bidder) .....

(Owner) [_____]

Dated ..... and which is an integral part of the Bid Form.

The following work will be performed (or provided) by Subcontractors and coordinated by us:

WORK SUBJECT	NAME
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

DOCUMENT 00501

AGREEMENT - AIA

1. AGREEMENT

AIA Document A101 Owner-Contractor Agreement Form - Stipulated Sum 1987 Edition, forms the basis of Contract between the Owner and Contractor.

END OF AGREEMENT - AIA

DOCUMENT 00701

GENERAL CONDITIONS - AIA

1. GENERAL CONDITIONS

AIA Document A201 General Conditions of the Contract for Construction, 1987 Edition, is the General Conditions between the Owner and Contractor.

2. SUPPLEMENTARY CONDITIONS

Refer to Document 00811 for amendments to these General Conditions.

END OF GENERAL CONDITIONS - AIA

DOCUMENT 00811

SUPPLEMENTARY CONDITIONS - AIA

1. SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the General Conditions of the Contract for Construction (AIA Document A201, 1987 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions which are defined in the General Conditions of the Contract for Construction (AIA Document A201, 1987 Edition) have the meanings assigned to them in the General Conditions.

ARTICLE 7.3 - CONSTRUCTION CHANGE DIRECTIVES

Add the following subparagraph:

7.3.10 The following fees apply to Changes in the Work in accordance with Subparagraph 7.3.6:

1. [____] percent overhead and profit on the net cost of Work done by the Contractor;

2. [____] percent overhead and profit on the cost of Work done by any Subcontractor;

3. On Work deleted from the Contract, credit to the Owner shall be the Architect approved net cost plus 1/2 of the overhead and profit percentage noted above.

ARTICLE 8 - TIME

Add the following subparagraph:

8.1.5 Contract Time is identified in Document 00312 - Bid Form - Unit Prices

ARTICLE 11.4 - PERFORMANCE BOND AND PAYMENT BOND

Add the following subparagraph:

11.4.3 The bond value requirements are as follows:

1. Provide a 100 percent Performance Bond on a standard surety bond form.

2. Provide a 100 percent Payment Bond on a standard surety bond form.

3. Deliver bonds within 3 days after execution of the Contract.

1. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.

2. Furnish or Supply: To supply and deliver, unload, inspect for damage.

3. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, and ready for use.

4. Provide: To furnish or supply, plus install.

END OF SUPPLEMENTARY CONDITIONS - AIA

SECTION 01010

SUMMARY OF WORK

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Contract Description.

1.1.2 Contractor use of site.

1.1.3 Owner occupancy.

1.1.4 Definitions.

1.2 CONTRACT DESCRIPTION

1.2.1 Contract Type: Unit Price as described in Document 00501 - Agreement - AIA.

1.3 CONTRACTOR USE OF SITE AND PREMISES

1.3.1 Limit use of site and premises to allow:
1.3.1.1 Owner occupancy.
1.3.1.2 Use of site and premises by occupants

OWNER OCCUPANCY

1.3.2 The Owner will occupy the site during the entire period of construction.

1.3.3 Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.

1.3.4 Schedule the Work to accommodate owner occupancy.

2. PART 2 PRODUCTS

Not Used.

3. PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01019

CONTRACT CONSIDERATIONS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Contingency allowance.

1.1.2 Schedule of values.

1.1.3 Application for payment.

1.1.4 Change procedures.

1.1.5 Measurement and payment - unit prices

1.2 RELATED SECTIONS

1.2.1 Section 01600 - Material and Equipment: Product substitutions

1.3 CONTINGENCY ALLOWANCE

1.3.1 Include in the Contract, a stipulated sum/price of $ 10,000 for use upon Owner's instruction.

1.3.2 Contractor's costs for Products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Contingency Allowance.

1.3.3 Funds will be drawn from the Contingency Allowance only by Change Order.

1.3.4 At closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order.

1.4 SCHEDULE OF VALUES

1.4.1 Submit a printed schedule on Contractor's standard form or electronic media printout will be considered.

1.4.2 Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

1.4.3 Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the major specification Section. Identify site mobilization, bonds and insurance.

1.4.4 Include separately from each line item, a direct proportional amount of Contractor's overhead and profit.

1.4.5 Revise schedule to list approved Change Orders, with each Application For Payment.

1.5 APPLICATIONS FOR PAYMENT

1.5.1 Submit three copies of each application on Contractor's electronic media driven form.

1.5.2 Content and Format: Utilize Schedule of Values for listing items in Application for Payment.

1.5.3 Payment Period: net 30 days. 2% discount if paid in ten days.

1.5.4 Include an updated construction progress schedule.

1.6 CHANGE PROCEDURES

1.6.1 The Architect/Engineer will advise of minor changes in the Work not involving an adjustment to Contract Sum/Price or Contract Time as authorized by AIA A201, 1987 Edition, Paragraph 7.4 by issuing supplemental instructions.

1.6.2 The Architect/Engineer may issue a Notice of Change which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change [with a stipulation of any overtime work required and [the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within three days.

1.6.3 The Contractor may propose changes by submitting a request for change to the Architect/Engineer, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum/Price and Contract Time with full documentation .

1.6.4 Stipulated Sum/Price Change Order: Based on Notice of Change and Contractor's price quotation or Contractor's request for a Change Order as approved by Architect/Engineer.

1.6.5 Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under a Construction Change Directive. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.

1.6.6 Construction Change Directive: Architect/Engineer may issue a directive, on AIA Form G713 Construction Change Directive signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute the change.

1.6.7 Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract. Architect/Engineer will determine the change allowable in Contract Sum/Price and Contract Time as provided in the Contract Documents.

1.6.8 Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

1.6.9 Change Order Forms: AIA G701

1.6.10 Execution of Change Orders: Architect/Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

1.7 DEFECT ASSESSMENT

1.7.1 Replace the Work, or portions of the Work, not conforming to specified requirements.

1.7.2 If, in the opinion of the Architect/Engineer, it is not practical to remove and replace the Work, the Architect/Engineer will direct an appropriate remedy or adjust payment.

1.8 MEASUREMENT AND PAYMENT - UNIT PRICES

1.8.1 Authority: Measurement methods are delineated in the individual specification sections.

1.8.2 Take measurements and compute quantities. The Architect/Engineer will verify measurements and quantities.

1.8.3 Unit Quantities: Quantities and measurements indicated in the Bid Form are for contract purposes only. Quantities and measurements supplied or placed in the Work shall determine payment.

1.8.4 Payment Includes: Full compensation for required labor, Products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

1.8.5 Unit Price Schedule:

1.8.5.1 Paving; Section 2510
1.8.5.2 Aggregate; Section 02207
1.8.5.3 Topsoil; Section 02936
1.8.5.4 Curb; Section 02510
1.8.5.5 Chain Link Fence; Section 02831
1.8.5.6 Snow Fence; Section 02832
1.8.5.7 Solid PVC pipe and perforated PVC pipe; Section 02722
1.8.5.8 Seeding; Section 02936

2 PART 2 PRODUCTS

Not Used.

2. PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01039

COORDINATION AND MEETINGS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Coordination and project conditions.

1.1.2 Field engineering.

1.1.3 Preconstruction meeting.

1.1.4 Site mobilization meeting.

1.1.5 Progress meetings.

1.1.6 Examination.

1.1.7 Preparation.

1.1.8 Cutting and Patching.

1.1.9 Alteration project procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

1.2.1 Coordinate scheduling, submittals, and Work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.

1.2.2 Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.

1.2.3 After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 PRECONSTRUCTION MEETING

1.3.1 Architect/Engineer will schedule a meeting after acceptance of bid.

1.3.2 Attendance Required: Owner, Architect/Engineer, and Contractor.

1.3.3 Agenda:

1.3.3.1 Execution of Owner-Contractor Agreement.
1.3.3.2 Submission of executed bonds and insurance certificates.
1.3.3.3 Distribution of Contract Documents.
1.3.3.4 Submission of list of Subcontractors, schedule of values, and progress schedule.
1.3.3.5 Designation of personnel representing the parties in Contract, and the Architect/Engineer.
1.3.3.6 Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.

1.3.3.7 Scheduling.

1.3.4 Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect/Engineer, participants, and those affected by decisions made.

1.4 SITE MOBILIZATION MEETING

1.4.1 Architect/Engineer will schedule a meeting at the Project site prior to Contractor occupancy.

1.4.2 Attendance Required: Owner, Architect/Engineer, Contractor, and major Subcontractors.

1.4.3 Agenda:

1.4.3.1 Use of premises by Owner and Contractor.
1.4.3.2 Owner's requirements and occupancy.
1.4.3.3 Construction facilities and controls provided by Owner.
1.4.3.4 Temporary utilities provided by Owner.
1.4.3.5 Survey and layout.
1.4.3.6 Security and housekeeping procedures.
1.4.3.7 Schedules.
1.4.3.8 Application for payment procedures.
1.4.3.9 Procedures for testing.
1.4.3.10 Procedures for maintaining record documents.

1.4.4 Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect/Engineer, Owner, participants, and those affected by decisions made.

1.5 PROGRESS MEETINGS

1.5.1 Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.

1.5.2 Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

1.5.3 Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Architect/Engineer, as appropriate to agenda topics for each meeting.

1.5.4 Agenda:

1.5.4.1 Review minutes of previous meetings.
1.5.4.2 Review of Work progress.
1.5.4.3 Field observations, problems, and decisions.
1.5.4.4 Identification of problems which impede planned progress.
1.5.4.5 Review of submittals schedule and status of submittals.
1.5.4.6 Review of off-site fabrication and delivery schedules.
1.5.4.7 Maintenance of progress schedule.
1.5.4.8 Corrective measures to regain projected schedules.
1.5.4.9 Planned progress during succeeding work period.
1.5.4.10 Coordination of projected progress.
1.5.4.11 Maintenance of quality and work standards.
1.5.4.12 Effect of proposed changes on progress schedule and coordination.
1.5.4.13 Other business relating to Work.

3.1.14 Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.

3.1.15 Finish surfaces as specified in individual Product sections.

END OF SECTION

1.5.5 Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect/Engineer, Owner, participants, and those affected by decisions made.

2. PART 2 PRODUCTS

Not used

3. PART 3 EXECUTION

3.1 CUTTING AND PATCHING

3.1.1 Employ original installer to perform cutting and patching.

3.1.2 Submit written request in advance of cutting or altering elements which affect:
- 3.1.2.1 Structural integrity of element.
- 3.1.2.2 Integrity of weather-exposed or moisture-resistant elements.
- 3.1.2.3 Efficiency, maintenance, or safety of element.
- 3.1.2.4 Visual qualities of sight exposed elements.
- 3.1.2.5 Work of Owner or separate contractor.

3.1.3 Execute cutting, fitting, and patching to complete Work, and to:
- 3.1.3.1 Fit the several parts together, to integrate with other Work.
- 3.1.3.2 Uncover Work to install or correct ill-timed Work.
- 3.1.3.3 Remove and replace defective and non-conforming Work.
- 3.1.3.4 Remove samples of installed Work for testing.

3.1.4 Execute work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.

3.1.5 Cut masonry and concrete materials using masonry saw or core drill.

3.1.6 Restore Work with new Products in accordance with requirements of Contract Documents.

3.1.7 Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

3.1.8 Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

3.1.9 Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

3.1.10 Identify hazardous substances or conditions exposed during the Work to the Architect/Engineer for decision or remedy.

3.1.11 Where new Work abuts or aligns with existing, provide a smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.

3.1.12 When finished surfaces are cut so that a smooth transition with new Work is not possible, terminate existing surface along a straight line at a natural line of division and submit recommendation to Architect/Engineer for review.

3.1.13 Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition; to Architect/Engineer for review.

SECTION 01300

SUBMITTALS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Submittal procedures.

1.1.2 Construction progress schedules.

1.1.3 Product Data.

1.1.4 Shop Drawings.

1.1.5 Test reports.

1.2 RELATED SECTIONS

1.2.1 Section 01700 - Contract Closeout: Contract closeout submittals.

1.3 SUBMITTAL PROCEDURES

1.3.1 Transmit each submittal with Architect/Engineer accepted form.

1.3.2 Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate.

1.3.3 Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

1.3.4 Schedule submittals to expedite the Project, and deliver to Architect/Engineer at business address. Coordinate submission of related items.

1.3.5 For each submittal for review, allow 15 days excluding delivery time to and from the contractor.

1.3.6 Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.

1.3.7 Provide space for Contractor and Architect/Engineer review stamps.

1.3.8 When revised for resubmission, identify all changes made since previous submission.

1.3.9 Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

1.3.10 Submittals not requested will not be recognized or processed.

1.4 CONSTRUCTION PROGRESS SCHEDULES

1.4.1 Submit initial schedule in duplicate within 15 days after date of Owner-Contractor Agreement.

1.4.2 Revise and resubmit as required.

1.4.3 Submit revised schedules with each Application for Payment, identifying changes since previous version.

1.4.4 Submit a computer generated chart with separate line for each major portion of Work or operation, identifying first work day of each week.

1.4.5 Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.

1.4.6 Indicate estimated percentage of completion for each item of Work at each submission.

1.4.7 Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and required by Allowances.

1.5 PROPOSED PRODUCTS LIST

1.5.1 Within 15 days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

1.5.2 For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.6 PRODUCT DATA

1.6.1 Product Data For Review:

1.6.1.1 Submitted to Architect/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

1.6.1.2 After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.

1.6.2 Product Data For Information:

1.6.2.1 Submitted for the Architect/Engineer's knowledge as contract administrator or for the Owner.

1.6.3 Product Data For Project Close-out:

1.6.3.1 Submitted for the Owner's benefit during and after project completion.

1.6.4 Submit the number of copies which the Contractor requires, plus two copies which will be retained by the Architect/Engineer.

1.6.5 Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

1.6.6 Indicate Product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

1.6.7 After review distribute in accordance with the Submittal Procedures article above and provide copies for record documents described in Section 01700 - CONTRACT CLOSEOUT.

1.7 SHOP DRAWINGS

1.7.1 Shop Drawings For Review:

1.7.1.1 Submitted to Architect/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

1.7.1.2 After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.

1.7.2 Shop Drawings For Information:

1.7.2.1 Submitted for the Architect/Engineer's knowledge as contract administrator or for the Owner.

1.7.3 Shop Drawings For Project Close-out:

1.7.3.1 Submitted for the Owner's benefit during and after project completion.

1.7.4 Submit the number of opaque reproductions which Contractor requires, plus two copies which will be retained by Architect/Engineer.

1.8 TEST REPORTS

1.8.1 Submit for the Architect/Engineer's knowledge as contract administrator or for the Owner.

1.8.2 Submit test reports for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

2. PART 2 PRODUCTS

Not Used.

3. PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01400

QUALITY CONTROL

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Quality assurance - control of installation.

1.1.2 Tolerances

1.1.3 References and standards.

1.1.4 Mock-up.

1.1.5 Inspecting and testing laboratory services.

1.1.6 Manufacturers' field services.

1.2 QUALITY ASSURANCE - CONTROL OF INSTALLATION

1.2.1 Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.

1.2.2 Comply with manufacturers' instructions, including each step in sequence.

1.2.3 Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

1.2.4 Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

1.2.5 Perform Work by persons qualified to produce required and specified quality.

1.2.6 Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

1.2.7 Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

1.3.1 Monitor fabrication and installation tolerance control of Products to produce acceptable Work. Do not permit tolerances to accumulate.

1.3.2 Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

1.3.3. Adjust Products to appropriate dimensions; position before securing Products in place.

1.4 REFERENCES AND STANDARDS

1.4.1 For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

1.4.2 Conform to reference standard by date of issue current on date of Contract Documents except where a specific date is established by code.

1.4.3 Obtain copies of standards where required by product specification sections.

1.4.4 Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect/Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

2. PART 2 PRODUCTS

Not Used.

3. PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

3.1.2 Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.

3.1.3 Examine and verify specific conditions described in individual specification sections.

3.1.4 Verify that utility services are available, of the correct characteristics, and in the correct locations.

3.2 PREPARATION

3.2.1 Clean substrate surfaces prior to applying next material or substance.

3.2.2 Seal cracks or openings of substrate prior to applying next material or substance.

3.2.3 Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Temporary Controls: Barriers, protection of the Work, and water control.

1.1.2 Construction Facilities: parking, progress cleaning.

1.2 RELATED SECTIONS

1.2.1 Section 01700 - Contract Closeout: Final cleaning.

1.3 TEMPORARY SANITARY FACILITIES

1.3.1 Existing] facilities may be used during construction operations. Maintain daily in clean and sanitary condition.

1.3.2 At end of construction, return facilities to same or better condition as originally found.

1.4 BARRIERS

1.4.1 Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations.

1.4.2 Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

1.4.3 Provide protection for plants designated to remain. Replace damaged plants.

1.4.4 Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.5 WATER CONTROL

1.5.1 Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

1.5.2 Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.6 PROTECTION OF INSTALLED WORK

1.6.1 Protect installed Work and provide special protection where specified in individual specification sections.

1.6.2 Provide temporary and removable protection for installed Products. Control activity in immediate work area to prevent damage.

1.6.3 Prohibit traffic from landscaped areas.

1.7 SECURITY

1.7.1 Provide security and facilities to protect Work, and existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.7.2 Coordinate with Owner's security program.

1.8 ACCESS ROADS

1.8.1 Provide and maintain access to fire hydrants, free of obstructions.

1.8.2 Provide means of removing mud from vehicle wheels before entering streets.

1.8.3 Designated existing on-site roads may be used for construction traffic.

1.9 PARKING

1.9.1 Arrange for temporary surface parking areas to accommodate construction personnel.

1.9.2 When site space is not adequate, provide additional off-site parking.

1.10 PROGRESS CLEANING AND WASTE REMOVAL

1.10.1 Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

1.10.2 Collect and remove waste materials, debris, and rubbish from site periodically and dispose off-site.

1.11 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

1.11.1 Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.

1.11.2 Clean and repair damage caused by installation or use of temporary work.

1.11.3 Restore existing facilities used during construction to original condition.

2. PART 2 PRODUCTS

Not Used.

3. PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01600

MATERIAL AND EQUIPMENT

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Products.

1.1.2 Transportation and handling.

1.1.3 Storage and protection.

1.1.4 Product options.

1.1.5 Substitutions.

1.2 RELATED SECTIONS

1.2.1 Document 00101 - Instructions to Bidders: Product options and substitution procedures.

1.2.2 Section 01400 - Quality Control: Product quality monitoring.

1.3 PRODUCTS

1.3.1 Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

1.3.2 Provide interchangeable components of the same manufacture for components being replaced.

1.4 TRANSPORTATION AND HANDLING

1.4.1 Transport and handle Products in accordance with manufacturer's instructions.

1.4.2 Promptly inspect shipments to ensure that Products comply with requirements, quantities are correct, and Products are undamaged.

1.4.3 Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.5 STORAGE AND PROTECTION

1.5.1 Store and protect Products in accordance with manufacturers' instructions.

1.5.2 Store with seals and labels intact and legible.

1.5.3 Store sensitive Products in weather tight, climate controlled, enclosures in an environment favorable to Product.

1.5.4 For exterior storage of fabricated Products, place on sloped supports above ground.

1.5.5 Provide off-site storage and protection when site does not permit on-site storage or protection.

1.5.6 Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of Products.

1.5.7 Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

1.5.8 Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.

1.5.9 Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

1.6 PRODUCT OPTIONS

1.6.1 Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.

1.6.2 Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.

1.6.3 Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

1.7 SUBSTITUTIONS

1.7.1 Architect/Engineer will consider requests for Substitutions only within 15 days after date of Owner-Contractor Agreement.

1.7.2 Substitutions may be considered when a Product becomes unavailable through no fault of the Contractor.

1.7.3 Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

1.7.4 A request constitutes a representation that the Contractor:

1.7.4.1 Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
1.7.4.2 Will provide the same warranty for the Substitution as for the specified Product.
1.7.4.3 Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
1.7.4.4 Waives claims for additional costs or time extension which may subsequently become apparent.
1.7.4.5 Will reimburse Owner for review or redesign services associated with re-approval by authorities.

1.7.5 Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

1.7.6 Substitution Submittal Procedure:

1.7.6.1 Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
1.7.6.2 Submit shop drawings, product data, and certified test results attesting to the proposed Product equivalence. Burden of proof is on proposer.
1.7.6.3 The Architect/Engineer will notify Contractor in writing of decision to accept or reject request.

2. PART 2 PRODUCTS

Not Used.

3. PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Closeout procedures.

1.1.2 Final cleaning.

1.1.3 Adjusting.

1.1.4 Project record documents.

1.1.5 Operation and maintenance data.

1.1.6 Spare parts and maintenance Products.

1.1.7 Warranties and bonds.

1.1.8 Maintenance service.

1.2 RELATED SECTIONS

1.2.1 Section 01500 - Construction Facilities and Temporary Controls: Progress cleaning.

1.3 CLOSEOUT PROCEDURES

1.3.1 Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architect/Engineer's review.

1.3.2 Provide submittals to Architect/Engineer that are required by governing or other authorities.

1.3.3 Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.4 FINAL CLEANING

1.4.1 Execute final cleaning prior to final project assessment.

1.4.2 Clean debris from gutters and drainage systems.

1.4.3 Clean site; sweep paved areas, rake clean landscaped surfaces.

1.4.4 Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.5 PROJECT RECORD DOCUMENTS

1.5.1 Maintain on site one set of the following record documents; record actual revisions to the Work:

1.5.1.1 Drawings.
1.5.1.2 Specifications.
1.5.1.3 Addenda.
1.5.1.4 Change Orders and other modifications to the Contract.
1.5.1.5 Reviewed Shop Drawings, Product Data, and Samples.
1.5.1.6 Manufacturer's instruction for assembly, installation, and adjusting.

1.5.2 Ensure entries are complete and accurate, enabling future reference by Owner.

1.5.3 Store record documents separate from documents used for construction.

1.5.4 Record information concurrent with construction progress.

1.5.5 Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:

1.5.5.1 Manufacturer's name and product model and number.
1.5.5.2 Product substitutions or alternates utilized.
1.5.5.3 Changes made by Addenda and modifications.

1.5.6 Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:

1.5.6.1 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
1.5.6.2 Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
1.5.6.3 Field changes of dimension and detail.
1.5.6.4 Details not on original Contract drawings.

1.5.7 Submit documents to Architect/Engineer with claim for final Application for Payment.

1.6 MAINTENANCE SERVICE

1.6.1 Furnish service and maintenance of components indicated in specification sections for one year from date of Substantial Completion.

1.6.2 Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

1.6.3 Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

1.6.4 Maintenance service shall not be assigned or transferred to any agent or Subcontractor without prior written consent of the Owner

2. PART 2 PRODUCTS

Not Used.

3. PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 02207

AGGREGATE MATERIALS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Aggregate materials.

1.2 RELATED SECTIONS

1.2.1 Section 01019 - Contract Considerations: Requirements applicable to unit prices for the work of this section.

1.2.2 Section 01400 - Quality Control: Testing aggregate fill materials.

1.3 UNIT PRICES - MEASUREMENT AND PAYMENT

1.3.1 Section 01019 - Contract Considerations: Unit prices.

1.3.2 Aggregate: By the ton. Includes supplying aggregate materials, scarifying substrate, placing where required and compacting.

1.4 REFERENCES

1.4.1 NJDOT Standard Specifications for Road and Bridge Construction, 1989

1.5 SUBMITTALS FOR INFORMATION

1.5.1 Section 01300 - Submittals: Procedures for submittals.

1.5.2 Materials Source: Submit name of imported materials suppliers.

1.6 QUALITY ASSURANCE

1.6.1 Perform Work in accordance with State of New Jersey Highways standards.

2. PART 2 PRODUCTS

2.1 BLENDED AGGREGATE MATERIALS

2.1.1 Aggregate Type A: Conforming to NJDOT standard, dense graded aggregate.

2.2 SOURCE QUALITY CONTROL

2.2.1 Provide materials of each type from same source throughout the Work.

3. PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verify substrate has been inspected, gradients and elevations are correct, and is dry.

3.2 PREPARATION

3.2.1 Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.

3.2.2 Do not place fill on soft, muddy, or frozen surfaces.

3.3 AGGREGATE PLACEMENT

3.3.1 Spread aggregate over prepared substrate to a total compacted thickness as required to grade to drain.

3.3.2 Place aggregate in maximum 6 inch layers and compact to specified density.

3.3.3 Level and contour surfaces to grade to drain.

3.3.4 Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.

3.3.5 Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.

3.3.6 Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.4 TOLERANCES

3.4.1 Slope: Grade to drain.

3.5 FIELD QUALITY CONTROL

3.5.1 Section 01400 - Quality Assurance: Field inspection.

3.5.2 Compaction testing will be performed in accordance with NJDOT standards.
3.5.3 Verify grade will drain.

3.5.4 If tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.5.5 Frequency of Tests: as required by Architect/Engineer.

3.6 SCHEDULES

3.6.1 Under Asphalt Pavement:
3.6.1.1 Compact placed aggregate materials to achieve compaction of 100 percent.

END OF SECTION

SECTION 02510

ASPHALTIC CONCRETE PAVING

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Asphaltic concrete paving, base course.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

1.2.1 Asphalt Pavement Mix (Base Course): By the ton. Includes preparing base, placing, compacting and rolling, testing. Includes mix design, supplying to site, testing.

1.2.2 Curb: By the lineal foot. Includes preparing base, placing, compacting and rolling, testing. Includes mix design, supplying to site, testing.

1.3 REFERENCES

1.3.1 NJDOT Standard Specifications for Road and Bridge Construction, 1989.

1.4 QUALITY ASSURANCE

1.4.1 Perform Work in accordance with NJDOT standard.

1.4.2 Mixing Plant: Conform to NJDOT standard.

1.4.3 Obtain materials from same source throughout.

1.5 REGULATORY REQUIREMENTS

1.5.1 Conform to applicable code for paving work on property.

1.6 ENVIRONMENTAL REQUIREMENTS

1.6.1 Do not place asphalt when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen.

1.6.2 Place bitumen mixture when temperature is not more than 15 degrees F below bitumen suppliers bill of lading and not more than maximum specified temperature.

2. PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Asphalt Cement: In accordance with NJDOT standards.

2.1.2 Aggregate for Base Course Mix: In accordance with NJDOT standards.

2.2 ASPHALT PAVING MIX.

2.2.1 Base Course: In accordance with NJDOT standards.

2.3 SOURCE QUALITY CONTROL AND TESTS

2.3.1 Section 01400 - Quality Control: Provide mix design for asphalt.

2.3.2 Submit proposed mix design for review prior to beginning of work.

2.3.3 Test samples in accordance with NJDOT standards.

3. PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verify base conditions under provisions of Section 01039.

3.1.2 Verify that compacted subgrade is dry and ready to support paving and imposed loads.

3.1.3 Verify gradients and elevations of base are correct. Verify that slope will drain and no puddles will form.

3.2 PLACING ASPHALT PAVEMENT - SINGLE COURSE

3.2.1 Place base course to thickness identified in schedule at end of Section.

3.2.2 Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.

3.2.3 Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.3 CURBS

3.3.1 Install extruded asphalt curbs of profile as indicated.

3.4 TOLERANCES

3.4.1 Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.

3.4.2 Scheduled Compacted Thickness: Within 1/4 inch.

3.5 FIELD QUALITY CONTROL

3.5.1 Section 01400 - Quality Control: Provide field inspection and testing.

3.5.2 Take samples and perform tests in accordance with NJDOT standards.

3.5.3 Verify that paving will drain and no puddles will form.

3.6 PROTECTION

3.6.1 Immediately after placement, protect pavement from mechanical injury for two days or until surface temperature is less than 140 degrees F (60 degrees C).

3.7 SCHEDULES

3.7.1 Pavement at Parking Areas, Driveways: stabilized base course of three inch compacted thickness.

END OF SECTION

SECTION 02722

SITE STORM SEWERAGE SYSTEMS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Site storm sewerage drainage piping, fittings and accessories, and bedding.

1.2 UNIT PRICE - BASIS OF MEASUREMENT

1.2.1 Pipe and Fittings: By the linear foot. Includes hand trimming, excavating, bedding, pipe and fittings, granular cover, connecting to existing piping.

1.3 REFERENCES

1.3.1 ASTM D2729 - Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.

1.3.2 NJDOT Standard Specifications for Road and Bridge Construction, 1989

1.4 SUBMITTALS FOR REVIEW

1.4.1 Section 01300 - Submittals: Procedures for submittals.

1.4.2 Product Data: Provide data indicating pipe, pipe accessories.

1.5 SUBMITTALS FOR INFORMATION

1.5.1 Section 01300 - Submittals: Procedures for submittals.

1.5.2 Manufacturer's Installation Instructions: Indicate special procedures required to install Products specified.

1.5.3 Manufacturer's Certificate: Certify that Products meet or exceed specified requirements.

1.6 SUBMITTALS AT PROJECT CLOSEOUT

1.6.1 Section 01700 - Contract Closeout: Procedures for submittals.

1.6.2 Accurately record actual locations of pipe runs, connections, catch basins, cleanouts, and invert elevations.

1.7 REGULATORY REQUIREMENTS

1.7.1 Conform to applicable code for installation of the Work of this section.

2. PART 2 PRODUCT

2.1 SEWER PIPE MATERIALS

2.1.1 Plastic Pipe: ASTM D2729, polyvinyl chloride (PVC) material; inside nominal diameter of 4 inches, Schedule 80, bell and spigot solvent sealed joint end. Slit or perforated as scheduled.

2.2 ACCESSORIES

2.2.1 Fittings: Same material as pipe molded or formed to suit pipe size and end design, in required tee, bends, elbows, cleanouts, reducers, traps and other configurations required.

2.2.2 Filter Fabric: Non-biodegradable, manufactured by Mirafi.

2.2.3 Trace Wire: Magnetic detectable conductor, clear plastic covering, imprinted with "Storm Sewer Service" in large letters.

2.2.4 Grout: To meet NJDOT specifications.

2.3 BEDDING AND COVER MATERIALS

2.3.1 Bedding and Cover: Existing fill.

3. PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on layout drawings.

3.2 PREPARATION

3.2.1 Hand trim excavations to required elevations. Correct over excavation with existing fill.

3.2.2 Remove large stones or other hard matter which could damage piping or impede consistent backfilling or compaction.

3.3 BEDDING

3.3.1 Excavate pipe trench. Hand trim excavation for accurate placement of pipe to elevations indicated.

3.3.2 Place bedding material at trench bottom, level materials in continuous layer not exceeding 6 inches compacted depth.

3.3.3 Maintain optimum moisture content of bedding material to attain required compaction density.

3.4 INSTALLATION - PIPE

3.4.1 Install pipe, fittings, and accessories in accordance with manufacturer's instructions. Seal joints watertight.

3.4.2 Place pipe on minimum 6 inch deep bed of suitable compacted existing fill.

3.4.3 Lay pipe to slope gradients noted on drawings with maximum variation from true slope of 1/8] inch in 10 feet.

3.4.4 Install existing fill at sides and over top of pipe. Provide top cover to minimum compacted thickness of 12 inches, compact to 95 percent.

3.4.5 Do not displace or damage pipe when compacting.

3.4.6 Connect to existing pipes or basins as required. Sleeve where necessary.

3.4.7 Install trace wire continuous over top of pipe.

3.5 FIELD QUALITY CONTROL

3.5.1 Section 01400 - Quality Assurance: Field inspection and testing.

3.5.2 Request inspection prior to and immediately after placing cover over pipe.

3.5.3 Compaction testing will be performed in accordance with NJDOT requirements.

3.5.4 If tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.5.5 Frequency of Tests: per NJDOT requirements.

3.5.6 Infiltration Test: Test in accordance with applicable code.

3.5.7 Deflection Test: Test in accordance with applicable code.

3.5.8 Pressure Test: Test in accordance with applicable code.

3.6 PROTECTION

3.6.1 Protect finished Work under provisions of Section 01500.

3.6.2 Protect pipe and cover from damage or displacement until backfilling operation is in progress.

END OF SECTION

SECTION 02831

CHAIN LINK FENCES AND GATES

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Fence framework, fabric, and accessories.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

1.2.1 Fencing: By the linear foot to the fence height specified, based on the specified post spacing. Includes posts, rails, tension wire, fabric, accessories, attachments.

1.3 REFERENCES

1.3.1 ASTM A428 - Weight of Coating on Aluminum-Coated Iron or Steel Articles.

1.3.2 ASTM A491 - Aluminum-Coated Steel Chain Link Fence Fabric.

1.3.3 ASTM F567 - Installation of Chain-Link Fence.

1.3.4 ASTM F669 - Strength Requirements of Metal Posts and Rails for Industrial Chain Link Fence.

1.3.5 Chain Link Fence Manufacturers Institute (CLFMI) - Product Manual.

1.3.6 NJDOT Standards for Road and Bridge Construction

1.3.7 NJ Turnpike Authority Standard Specifications

1.4 SYSTEM DESCRIPTION

1.4.1 Fence Height: six feet.

1.4.2 Line Post Spacing: At intervals not exceeding 10 feet.

1.4.3 Fence Post and Rail Strength: Conform to NJ Turnpike Authority specifications.

1.5 SUBMITTALS FOR REVIEW

1.5.1 Section 01300 - Submittals: Procedures for submittals.

1.5.2 Product Data: Provide data on fabric, posts, accessories, fittings and hardware.

1.5.3 Shop Drawings: Indicate plan layout, spacing of components, dimensions, hardware anchorage, and schedule of components.

1.6 SUBMITTALS FOR INFORMATION

1.6.1 Section 01300 - Submittals: Procedures for submittals.

1.6.2 Manufacturer's Installation Instructions: Indicate installation requirements.

1.7 SUBMITTALS FOR CLOSEOUT

1.7.1 Section 01700 - Contract Closeout: Procedures for submittals.

1.7.2 Project Record Documents: Accurately record actual locations of property perimeter posts relative to property lines.

1.8 QUALITY ASSURANCE

1.8.1 Perform Work in accordance with NJTA standards.

1.9 QUALIFICATIONS

1.9.1 Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years experience.

2. PART 2 PRODUCTS

2.1 MANUFACTURERS

2.1.1 Aluminized Chain Link Fabric, Tension Wire and Fence Fittings: Page Aluminized Steel Corporation, Bartonville, IL

2.1.2 Round Terminal Posts, Brace Rails and Gate Frames: Allied Tube and Conduit, Fence Division, Harvey, IL

2.1.3 C Style Posts and Drive Anchor Footings: Anchor Fence, Inc., Baltimore, MD

2.2 MATERIALS AND COMPONENTS

2.2.1 Materials and Components: Aluminized fabric with knuckle finish at bottom, barb finish at top , galvanized posts and rails, aluminized tie wire, galvanized caps, tension rods, accessories.

2.2.2 Fabric Size: 6 feet high, 9 gage wire, 2 inch mesh, aluminized wire.

2.2.3 Intermediate Posts: C style, 1 7/8 inch standard size. Three foot embedment, drive and anchor type, shoe and blade at surface of ground.

2.2.4 Terminal, Corner, Rail, Brace, and Pedestrian Gate Posts: 2 ½ inch outside diameter, round.

2.2.5 Traffic gate posts: 3 inch diameter. Double gates for traffic, where required. Maximum leaf six feet wide.

2.2.6 Brace rail: 1 5/8 inch outside diameter.

2.2.7 All gates with lockable hardware.

2.2.8 Aluminum tie wire, 9 gage.

2.2.9 Bottom and Top Tension wire: 7 gage, aluminized

3. PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Install framework, fabric, accessories and gates in accordance with manufacturer's instructions.

3.1.2 Place fabric on outside of posts and rails.

3.1.3 Set posts plumb.

3.1.4 Line Post Depth Below Finish Grade: 3 feet

3.1.5 Corner, Gate and Terminal Post Depth Below Finish Grade: per manufacturers requirements.

3.1.6 Brace each gate and corner post to adjacent line post as recommended by manufacturer.

3.1.7 Install brace rail on corner gate leaves if recommended by manufacturer.

3.1.8 Stretch fabric between terminal posts or at intervals of maximum recommended by manufacturer.

3.1.9 Position bottom of fabric 2 inches (50 mm) above finished grade.

3.1.10 Fasten fabric to top tension wire, line posts, braces, and bottom tension wire with tie wire at maximum 18 inches (380 mm) on centers.

3.1.11 Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.

3.1.12 Install bottom tension wire stretched taut between terminal posts.

3.1.13 Do not attach the hinged side of gate from building wall; provide gate posts.

3.1.14 Install gate with fabric to match fence. Install three hinges per leaf, latch, catches.

3.2 ERECTION TOLERANCES

3.2.1 Maximum Variation From Plumb: 1/4 inch ([6] [ ] mm).

3.2.2 Maximum Offset From True Position: 1 inch ([25] [ ] mm).

3.2.3 Components shall not infringe adjacent property lines.

3.3 SCHEDULES

3.3.1 Property Perimeter and Interior: 6 feet (1.8 m) high, aluminized coated fabric.

END OF SECTION

SECTION 02832

SNOW FENCE

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Fence framework, fabric, and accessories.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

1.2.1 Fencing: By the linear foot to the fence height specified, based on the specified post spacing. Includes posts, fabric, accessories, attachments.

1.3 REREFERENCES

1.3.1 NJDOT Standard Specifications for Road and Bridge Construction, 1989

1.4 SYSTEM DESCRIPTION

1.4.1 Fence Height: as indicated on Drawings.

1.4.2 Line Post Spacing: At intervals not exceeding 6 feet.

1.4.3 Fence Post and Fabric Strength: Conform to NJDOT standards.

1.5 SUBMITTALS FOR REVIEW

1.5.1 Section 01300 - Submittals: Procedures for submittals.

1.5.2 Product Data: Provide data on fabric, posts, accessories, fittings and hardware.

1.5.3 Shop Drawings: Indicate plan layout, spacing of components, dimensions, hardware anchorage, and schedule of components.

1.6 SUBMITTALS FOR INFORMATION

1.6.1 Section 01300 - Submittals: Procedures for submittals.

1.6.2 Manufacturer's Installation Instructions: Indicate installation requirements.

1.7 SUBMITTALS FOR CLOSEOUT

1.7.1 Section 01700 - Contract Closeout: Procedures for submittals.

1.7.2 Project Record Documents: Accurately record actual locations of fence posts relative to edge of pavement.

1.8 QUALITY ASSURANCE

1.8.1 Perform Work in accordance with NJDOT standards.

1.9 QUALIFICATIONS

1.9.1 Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years experience.

2. PART 2 PRODUCTS

2.1 MATERIALS AND COMPONENTS

2.1.1 Materials and Components: Conform to NJDOT standards.

2.1.2 Fabric Size: Conform to NJDOT standards.

2.1.3 Intermediate Posts: Conform to NJDOT standards

2.1.4 Terminal, Corner, Rail, Brace, and Gate Posts: Conform to NJDOT standards.

3. PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Install framework, fabric, accessories and gates in accordance with manufacturer's instructions.

3.1.2 Place fabric on outside of posts.

3.1.3 Set posts plumb.

3.1.4 Line Post Depth Below Finish Grade: per manufacturers requirements

3.1.5 Corner, Gate and Terminal Post Depth Below Finish Grade: per manufacturers requirements.

3.1.6 Brace each gate and corner post as recommended by manufacturer.

3.1.7 Stretch fabric between terminal posts or at intervals of maximum recommended by manufacturer.

3.1.8 Position bottom of fabric 2 inches (50 mm) above finished grade.

3.1.9 Fasten fabric to line posts, braces, and bottom tension wire with tie wire at intervals of maximum recommended by manufacturer.

3.2 ERECTION TOLERANCES

3.2.1 Maximum Variation From Plumb: 1/4 inch ([6] [ ] mm).

3.2.2 Maximum Offset From True Position: 1 inch ([25] [ ] mm).

3.2.3 Components shall not infringe adjacent pavement.

3.3 SCHEDULES

3.3.1 Seeded Area Perimeter: 4 feet high.

END OF SECTION

SECTION 02936

SEEDING

1. PART 1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Preparation of subsoil.

1.1.2 Placing topsoil.

1.1.3 Seeding, mulching and fertilizer.

1.1.4 Maintenance.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

1.2.1 Topsoil:
1.2.1.1 Basis of Measurement: By the cubic yard.
1.2.1.2 Basis of Payment: Includes topsoil, placing topsoil.

1.2.2 Grassed Areas:
1.2.2.1 Basis of Measurement: By the square yard.
1.2.2.2 Basis of Payment: Includes preparation of subsoil, placing topsoil, seeding, watering and maintenance to specified time limit.

1.3 REFERENCES

1.3.1 Standards for Soil Erosion and Sediment Control in New Jersey.

1.3.2 NJDOT Standard Specifications for Road and Bridge Construction, 1989.

1.4 QUALITY ASSURANCE

1.4.1 Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.

1.5 REGULATORY REQUIREMENTS

1.5.1 Comply with reference standard.

1.5.2 Provide certificate of compliance from authority having jurisdiction indicating approval of seed mixture.

1.6 DELIVERY, STORAGE, AND HANDLING

1.6.1 Deliver, store, protect and handle products to site under provisions of Section 01600.

1.6.2 Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

1.6.3 Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.7 COORDINATION

1.7.1 Coordinate work under provisions of Section 01039.

1.8 MAINTENANCE SERVICE

1.8.1 Maintain seeded areas immediately after placement until grass is well established and exhibits a vigorous growing condition.

2. PART 2 PRODUCTS

2.1 SEED MIXTURE

2.1.1 NJDOT type A-3. If seeding out of season, temporary mixture or erosion control matting or mulch may be used. Reseed with type A-3 in season.

2.2 SOIL MATERIALS

2.2.1 Topsoil: In conformance with NJDOT requirements.

2.3 ACCESSORIES

2.3.1 Mulching Material: In conformance with NJDOT requirements

2.3.2 Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of grass.

2.4 TESTS

2.4.1 Provide analysis of topsoil fill under provisions of Section 01400.

2.4.2 Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.

2.4.3 Testing is not required if recent tests are available for imported topsoil. Submit these test results to the testing laboratory for approval. Indicate, by test results, information necessary to determine suitability.

3. PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verify that prepared soil base is ready to receive the work of this Section.

3.2 PREPARATION OF SUBSOIL

3.2.1 Prepare sub-soil to eliminate uneven areas and low spots. Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas.

3.2.2 Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated sub-soil.

3.2.3 Scarify subsoil to a depth of 3 inches where topsoil is to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted sub-soil.

3.3 PLACING TOPSOIL

3.3.1 Spread topsoil to a minimum depth of 5 inches over area to be seeded. Rake until smooth.

3.3.2 Place topsoil during dry weather and on dry unfrozen subgrade.

3.3.3 Remove vegetable matter and foreign non-organic material from topsoil while spreading.

3.3.4 Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.

3.4 FERTILIZING

3.4.1 Apply fertilizer in accordance with manufacturer's instructions.

3.4.2 Apply after smooth raking of topsoil and prior to roller compaction.

3.4.3 Do not apply fertilizer at same time or with same machine as will be used to apply seed.

3.4.4 Mix thoroughly into upper 2 inches of topsoil.

3.4.5 Lightly water to aid the dissipation of fertilizer.

3.5 HYDROSEEDING

3.5.1 Apply seeded slurry with a hydraulic seeder at a rate per NJDOT standards evenly in two intersecting directions.

3.5.2 Do not hydroseed area in excess of that which can be mulched on same day.

3.5.3 Immediately following seeding, apply mulch per NJDOT requirements. Maintain clear of shrubs and trees.

3.5.4 Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.

3.6 MAINTENANCE

3.6.1 Water to prevent grass and soil from drying out.

3.6.2 Roll surface to remove minor depressions or irregularities.

3.6.3 Immediately reseed areas which show bare spots.

3.6.4 Protect seeded areas with warning signs and snow fence during and after maintenance period.

3.7 SCHEDULE

3.7.1 Seeded Area: Grass seed mixture specified, 5 inch (75 mm) top soil (unsettled).

END OF SECTION

Minutes of July 23, 1997 Preconstruction meeting, Cornell Dubilier Site
Corrected, 7/24/97, Corrections underlined thus

Attendees: Joe Bellamy (Bellamy Bros. Paving, Inc.); Joe Lockwood (Health and Safety consultant to Bellamy Bros.); Gary Boyer (Oxford); Eric Wilson (U.S. EPA); Lester and Mike (DSC).

Meeting began at 2 PM.

Introductions were made. Besides those attending, the following will be involved in the work:

Kelly Walton (subcontractor to Oxford, will be on site continuously to handle health and safety issues, to monitor dust and vapors in the exclusion zone, to protect the construction workers, and to monitor quantities delivered)

Manolo Polap (technician from Oxford, who will be on site occasionally to do sampling, miscellaneous monitoring of quantities delivered)

a person from Roy F. Weston (EPA's contractor) to check health and safety in the support (clean) zone, to protect the surrounding community and to monitor overall compliance with the work plan

Points of contact for communications are Joe Bellamy (Bellamy Bros.), Gary Boyer (Oxford), Lester (DSC) and Eric Wilson (EPA)

Lester or Mike will distribute a map of building numbers and locations.

A space for table and health and safety equipment will be assigned, most likely in building 15. Lester or Mike will assign keys, one per organization's point of contact, and expect them back when work is done. Bring your own phone.

Health and safety items.

Persons should decon before entering the building. Then there will be no contamination spread to the building.

Daily air results will be posted in building 15.

Exclusion zone will change daily. It will be marked with barrels and tape. Once an area is paved, it is secure.

Dust control is important. Background readings will be obtained. Water spraying from truck or hydrants will be almost constant to prevent dust. Trucks will have debris knocked off before leaving site. Gravel will act as tracking pad. Put heavy gravel where trucks are exiting for removing loose matter. No dirt tracking from contaminated to clean areas allowed. If necessary, wash off tires and vehicle before they leave exclusion zone.

PPE will be Tyvek coveralls, nitrile gloves. Expect to change Tyveks when leaving exclusion zone. Add dirty , disposable PPE to drum. Disposal by Oxford.

Certificates of training will be supplied by Bellamy.

Drinking water will be put at the edge of the exclusion zone. People should be careful about heat stress in PPE.

About thirty minutes of health and safety meeting should be enough every day.

Construction schedule is to work from back of site to front. When paving, 12 tandem tractor trailers may be arriving, up to 4 times per day. A way to stage them off the streets was devised. Site prep may take 7 -10 days.

Paving should take three days. As long as diligent effort is made, slight increase in schedule should not be a problem.

Working hours will be 7 AM - 4 PM, Monday Through Saturday.

Plan changes were marked and agreed by EPA

Perforated pipe by building 5 and 5A was eliminated. Stone cover of ramps by loading dock was substituted.

Put snow fence, topsoil and seed in the following areas:

2 ft. buffer by building 16 , tank cradle by building 9B

Add stone to area by Building 9C, loading dock by Building 9C, add stone outlet by Building 7

Leave 2- 3 ft. buffer by rear fence unpaved along Conrail Right of Way

Rear fence may have to be replaced. Cost impact to be determined.

Add more paving by building 14, eliminate topsoil and seed. Add grate.

move soil, debris and saplings as required by Lester and Mike. Small debris can go in dumpster. Large debris to areas directed by Lester and Mike.

Add paving to large area by building 10. Pave to concrete walk by bldg. 10 to provide access to overhead door. Cost increase is estimated to be $12,000.

Replace grate by building 4/4A

Add topsoil, seed and snow fence by bldg. 5A RR tracks. Delete paving.

Eliminate ridge raising by Bldg. 5A. Clean out trench drains by Bldg.'s 11 and 12.

Add at least 10 ft. stone buffer by Bldg. 12. Add sleeve for sump pump. Add stone ridge to drain positively.

Do not regrade to cross crown of road at rear of Bldg. 11 and 12.

Drain into woods rather than across crown of road.

Trees in woods need not be removed

Topsoil in woods, add seed and snow fence.

Raise rims of manholes and meters where needed throughout site.

Contract was not signed yet. Joe needs another day to read contract and consult his lawyer. One of Joe's concerns is that amount of stone needed is greater than 150 tons allotted in contract. A change order could be written for the extra amount. Another concern is whether he can get credit from his supplier for $80,000 in asphalt materials. Direct billing of quarry to owner (with review of bills by Oxford) should solve this if necessary. Gary discussed these issues with Lara of DSC on Thursday, 7/24. A Friday meeting to sign contract is scheduled for noon at the site.

Insurance certificate will be issued directly from Joe's agent to DSC. $500,000 coverage.

Health and Safety Plan Supplement

Confirming our phone call with Eric Wilson today, EPA agrees to the following changes to the Health and Safety Plan:

1. Cloth coveralls may be used in place of Tyvek, if the cloth coveralls provide the same body protection as the Tyvek (e.g., long sleeves and legs, tight fabric weave to keep out dust). Cloth coveralls must remain at the site and be left in the contamination reduction zone. Coveralls must be kept clean on the inside.
2. Booties (boot covers) over work boots may be worn, or work boots may be left in the contamination reduction zone.
3. Half face respirators may be worn, since OSHA guidelines permit them for the type of exposure anticipated.

Health and Safety Plan Supplement No. 2

Confirming our recent phone calls with Eric Wilson today (items 2 and 30 and last Friday (item 1), EPA agrees to the following changes to the Health and Safety Plan:

1. Safety goggles are not required if there is no impact hazard.
2. Dust generated by the dumping of asphalt mix into the paving machine is not subject to the 2.5 milligram per cubic meter limit for PCB laden dust., since the paving mix and the quarry process aggregate do not contain PCBs.
3. Monitoring per the MSDS for asphalt mix will consist of a direct reading instrument for hydrogen sulfide. The action level will be 10 ppm.

CORNELL-DUBILIER ELECTRONICS SITE

SITE STABILIZATION OPERATIONS & MAINTENANCE PROGRAM

Daily Inspection Log

DATE	PAVING	STORM SEWERS	CURBS	CHAIN LINK FENCE	SNOW FENCE	SEEDED AREAS	WARNING SIGNS	RIP RAP	SILT FENCE	SEDIMENT BARRIERS	CONDITIONS	ACTION REQUIRED	REPAIRS ORDERED	REMARKS	INSPECTED BY	REVIEWED BY
/ /	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐						
/ /	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐						
/ /	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐						
/ /	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐						
/ /	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐	Y☐ N☐						
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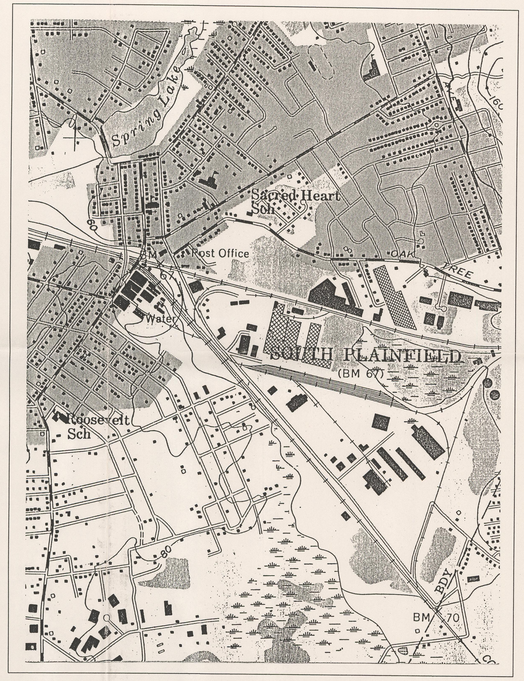
Rev 0, 6/97

REMOVAL ACTION

CORNELL–DUBILIER
333 HAMILTON BOULEVARD
SOUTH PLAINFIELD, NEW JERSEY

OXFORD ENVIRONMENTAL, INCORPORATED
43 ROUTE 46 EAST
PINE BROOK, NEW JERSEY 07058
TELEPHONE: (201) 244–0600 FAX: (201) 244–0722



SITE LOCATION MAP

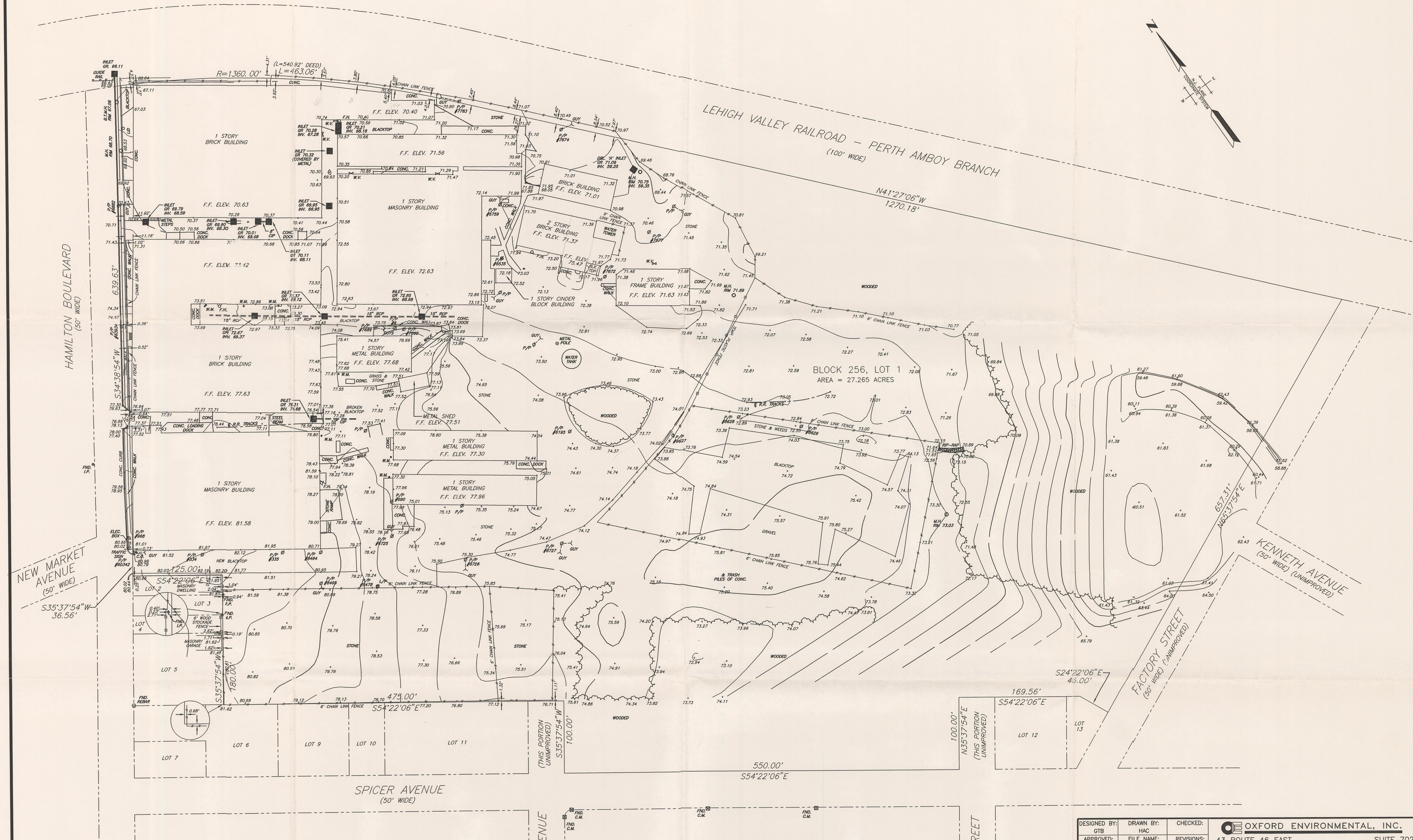
INDEX OF DRAWINGS

SHT.	DWG.	DESCRIPTION
1	C–1	COVER SHEET
2	C–2	LAYOUT PLAN
3	C–3	EXISTING CONDITIONS
4	C–4	DETAILS

BASE MAP DRAWN FROM TOPOGRAPHIC SURVEY BY LORD, ANDERSON, WORRELL & BARNETT (GORDON L. LEHNER, L.S.) DATED 05/29/97.

NEWMCOV1

DESIGNED BY: GTB	DRAWN BY: HAC	CHECKED:	OXFORD ENVIRONMENTAL, INC.
APPROVED:	FILE NAME: CDUBCV1	REVISIONS: NO: 1 DATE: 06/17/97	43 ROUTE 46 EAST SUITE 702 PINE BROOK (201) 244–0600 NEW JERSEY 07058
GARY T. BOYER, P.E.			COVER SHEET
			CORNELL–DUBILIER SITE 333 HAMILTON BOULEVARD SOUTH PLAINFIELD, NEW JERSEY
N.J. PROFESSIONAL ENGINEER #28544	SCALE: AS SHOWN	DATE: 06/06/97	DRAWING NO.: C–1 SHEET NO.: 1 OF 4

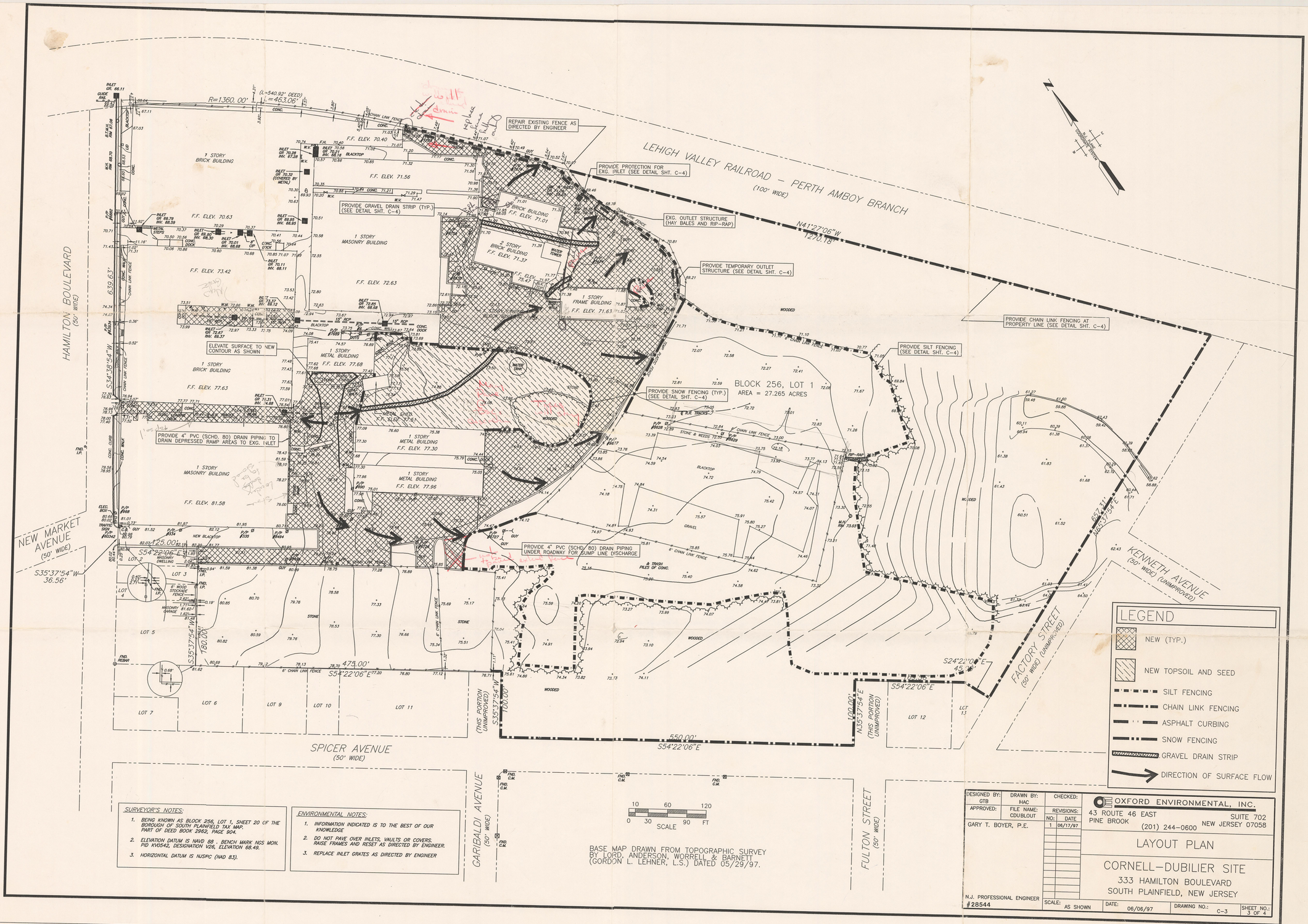


NOTES:

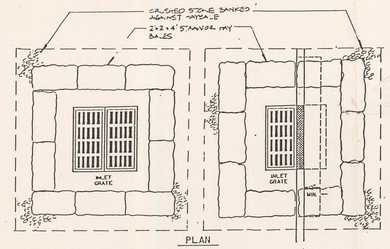
1. BEING KNOWN AS BLOCK 256, LOT 1, SHEET 20 OF THE BOROUGH OF SOUTH PLAINFIELD TAX MAP. PART OF DEED BOOK 2962, PAGE 904.
2. ELEVATION DATUM IS NAVD 88 . BENCH MARK NGS MON. PID KV0542, DESIGNATION V26, ELEVATION 68.49.
3. HORIZONTAL DATUM IS NJSPC (NAD 83).

BASE MAP DRAWN FROM TOPOGRAPHIC SURVEY BY LORD, ANDERSON, WORRELL & BARNETT (GORDON L. LEHNER, L.S.) DATED 05/29/97.

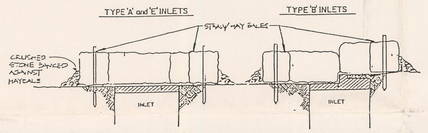
DESIGNED BY: GTB	DRAWN BY: HAC	CHECKED:	OXFORD ENVIRONMENTAL, INC. 43 ROUTE 46 EAST, SUITE 702, PINE BROOK, NEW JERSEY 07058, (201) 244-0600
APPROVED:	FILE NAME: CDUBEXG	REVISIONS: NO: 1 DATE: 06/17/97	
GARY T. BOYER, P.E.			EXISTING CONDITIONS
			CORNELL–DUBILIER SITE 333 HAMILTON BOULEVARD SOUTH PLAINFIELD, NEW JERSEY
N.J. PROFESSIONAL ENGINEER #28544	SCALE: AS SHOWN	DATE: 06/06/97	DRAWING NO.: C-2 / SHEET NO.: 2 OF 4



DESIGNED BY: GTB	DRAWN BY: HAC	CHECKED:	OXFORD ENVIRONMENTAL, INC.
APPROVED:	FILE NAME: CDUBLOUT	REVISIONS: NO: 1 DATE: 06/17/97	43 ROUTE 46 EAST SUITE 702 PINE BROOK NEW JERSEY 07058 (201) 244-0600
GARY T. BOYER, P.E.			LAYOUT PLAN
N.J. PROFESSIONAL ENGINEER #28544			CORNELL–DUBILIER SITE 333 HAMILTON BOULEVARD SOUTH PLAINFIELD, NEW JERSEY
SCALE: AS SHOWN	DATE: 06/06/97	DRAWING NO.: C-3	SHEET NO.: 3 OF 4



PLAN

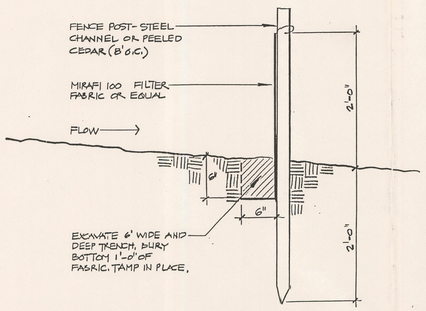


CROSS-SECTION

NOTE - A WIRE MESH SCREEN WITH ½" OPENINGS SHALL BE PLACED OVER THE INLET GRATE AND SHALL EXTEND TO AND BE ANCHORED BY THE STONE FILTER BERM.

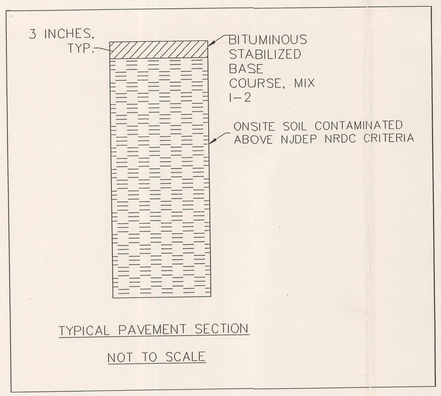
INLET FILTER

N.T.S.



SILT FENCE

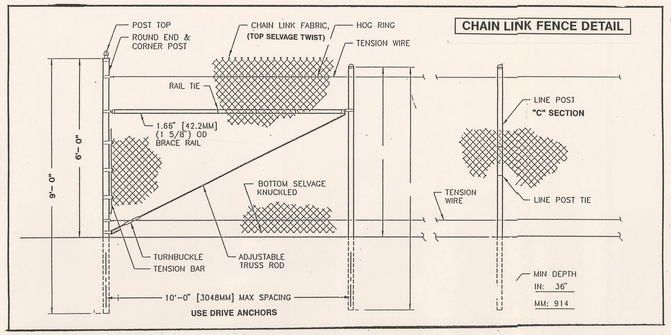
N.T.S.

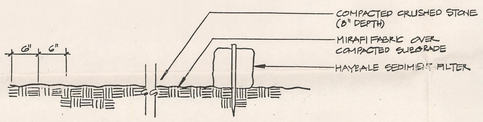


TYPICAL PAVEMENT SECTION

NOT TO SCALE

NEWMCOV1

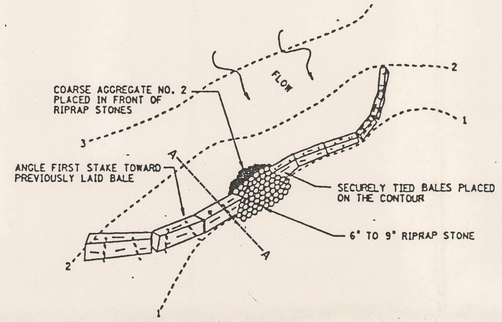




SECTION A-A

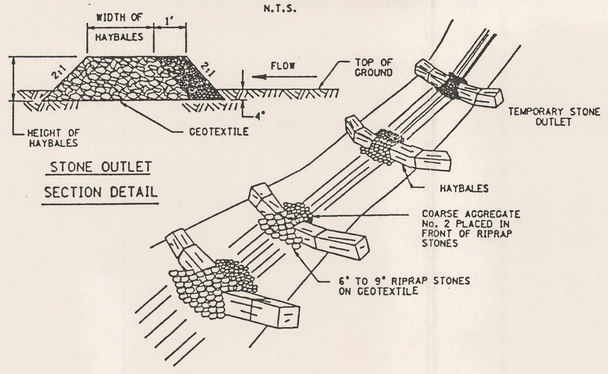
TRACKING PAD

N.T.S.



PLACEMENT AND ANCHORING DETAIL

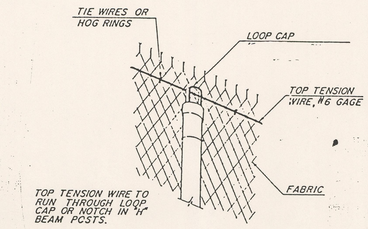
N.T.S.



STONE OUTLET SECTION DETAIL

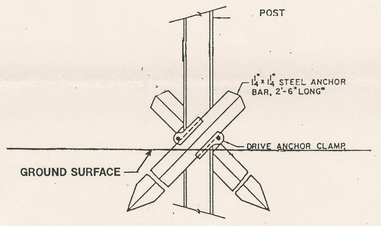
HAYBALE CHECK DAM WITH TEMPORARY STONE OUTLET

N.T.S.



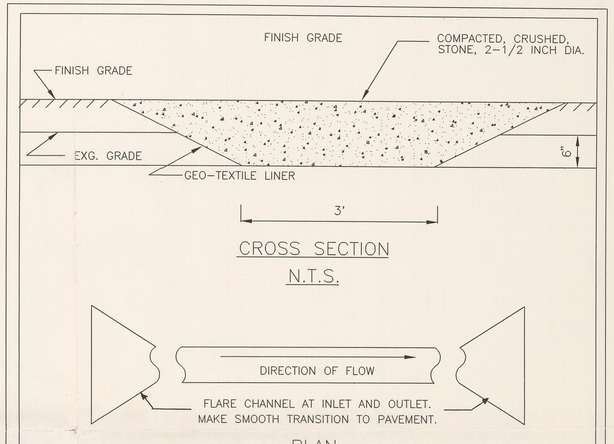
TOP TENSION WIRE AT LINE POSTS

(Typical for Chain Link Fence)



DRIVE ANCHOR DETAIL

*ANCHOR BARS to be normal to the line of the fence.



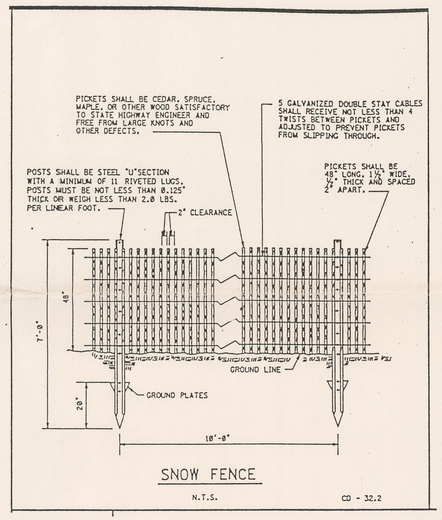
CROSS SECTION

N.T.S.

PLAN

N.T.S.

GRAVEL DRAIN



SNOW FENCE

N.T.S.

CD - 32.2

DESIGNED BY: GTB	DRAWN BY: HAC	CHECKED:	OXFORD ENVIRONMENTAL, INC.
APPROVED:	FILE NAME: CDUBDET1	REVISIONS: NO: 1 DATE: 06/17/97	43 ROUTE 46 EAST PINE BROOK (201) 244-0600 SUITE 702 NEW JERSEY 07058
GARY T. BOYER, P.E.			DETAILS
			CORNELL-DUBILIER SITE 333 HAMILTON BOULEVARD SOUTH PLAINFIELD, NEW JERSEY
N.J. PROFESSIONAL ENGINEER #28544	SCALE: AS SHOWN	DATE: 06/06/97	DRAWING NO.: C-4 SHEET NO.: 4 OF 4

HAMILTON BOULEVARD (50' WIDE)

LAKEVIEW AVENUE

NEW MARKET AVENUE (50' WIDE)

SPICER AVENUE (50' WIDE)

GARIBALDI AVENUE (50' WIDE)

FULTON STREET (50' WIDE)

KENNETH AVENUE (50' WIDE) (UNIMPROVED)

FACTORY STREET (50' WIDE) (UNIMPROVED)

LEHIGH VALLEY RAILROAD – PERTH AMBOY BRANCH (100' WIDE)

N41°27'06"W 1270.18'

R=1360.00' | L=463.06' (L=540.92' DEED)

S34°38'54"W 639.63'

S35°37'54"W 36.56'

S54°22'06"E 125.00'

S35°37'54"W 180.00'

S54°22'06"E 475.00'

S35°37'54"W 100.00'

S54°22'06"E 550.00'

N35°37'54"E 100.00'

S54°22'06"E 169.56'

S24°22'06"E 45.00'

N35°37'54"E 657.31'

BLOCK 256, LOT 1
AREA = 27.265 ACRES

1 STORY BRICK BUILDING
F.F. ELEV. 73.42

1 STORY BRICK BUILDING
F.F. ELEV. 77.63

1 STORY MASONRY BUILDING
F.F. ELEV. 81.58

1 STORY MASONRY BUILDING
F.F. ELEV. 70.63

F.F. ELEV. 71.56

1 STORY MASONRY BUILDING
F.F. ELEV. 72.63

BRICK BUILDING
F.F. ELEV. 71.01

2 STORY BRICK BUILDING
F.F. ELEV. 71.37

1 STORY CINDER BLOCK BUILDING

1 STORY FRAME BUILDING
F.F. ELEV. 71.63

1 STORY METAL BUILDING
F.F. ELEV. 77.68

METAL SHED
F.F. ELEV. 77.51

1 STORY METAL BUILDING
F.F. ELEV. 77.30

1 STORY METAL BUILDING
F.F. ELEV. 77.96

F.F. ELEV. 70.40

WOODED SWAMP

WOODED

APPROXIMATE LOCATION OF 20' WIDE SANITARY SEWER EASEMENT DB 3697, PG 472, TRACT #1

P.S.E.&G. EASEMENT DB 3283, PG 933

P.S.E.&G. EASEMENT

LOT 2 | LOT 3 | LOT 4 | LOT 5 | LOT 6 | LOT 7 | LOT 9 | LOT 10 | LOT 11 | LOT 12 | LOT 13

NOTES:

1. BEING KNOWN AS BLOCK 256, LOT 1, SHEET 20 OF THE BOROUGH OF SOUTH PLAINFIELD TAX MAP. PART OF DEED BOOK 2962, PAGE 904.
2. ELEVATION DATUM IS NAVD 88. BENCH MARK NGS MON. PID KV0542, DESIGNATION V26, ELEVATION 68.49.
3. HORIZONTAL DATUM IS NJSPC (NAD 83).

● – SET IRON PIN WITH CAP
× – D.H.&W. (DRILL HOLE & WINGS)

Gordon L. Lenher

GORDON L. LENHER
LAND SURVEYOR
NEW JERSEY LIC. NO. 18260

REVISED	DESCRIPTION
06/06/97	ADD PSE&G & SAN. SEWER EASEMENTS

TOPOGRAPHIC SURVEY

BLOCK 256, LOT 1

BOROUGH OF SOUTH PLAINFIELD
MIDDLESEX COUNTY, NEW JERSEY

LORD ANDERSON WORRELL & BARNETT Inc.
CIVIL ENGINEERING AND SURVEYING
PLANNING, PARKS AND RECREATION
851 HIGH STREET
BURLINGTON, NEW JERSEY 08016
(609) 387 – 2800

SCALE	1" = 60'
DRAWN BY	LML
DATE	05/19/97
JOB NO.	10510
DRAWING NO.	60-23

SHEET 1 OF 1
FILE: 8023TP.dwg

File: Date/Time: June 27, 1997 9:12 a.m. Scale: 1=60 Lindo Xrefs: